



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

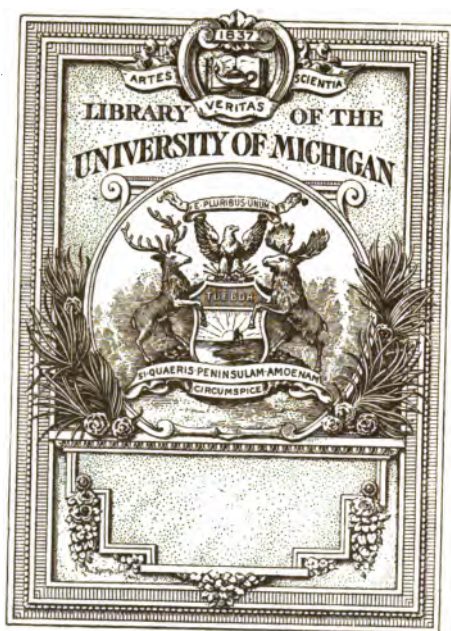
Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

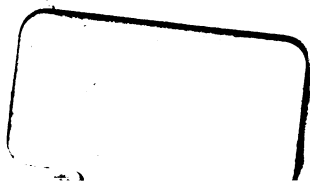
- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

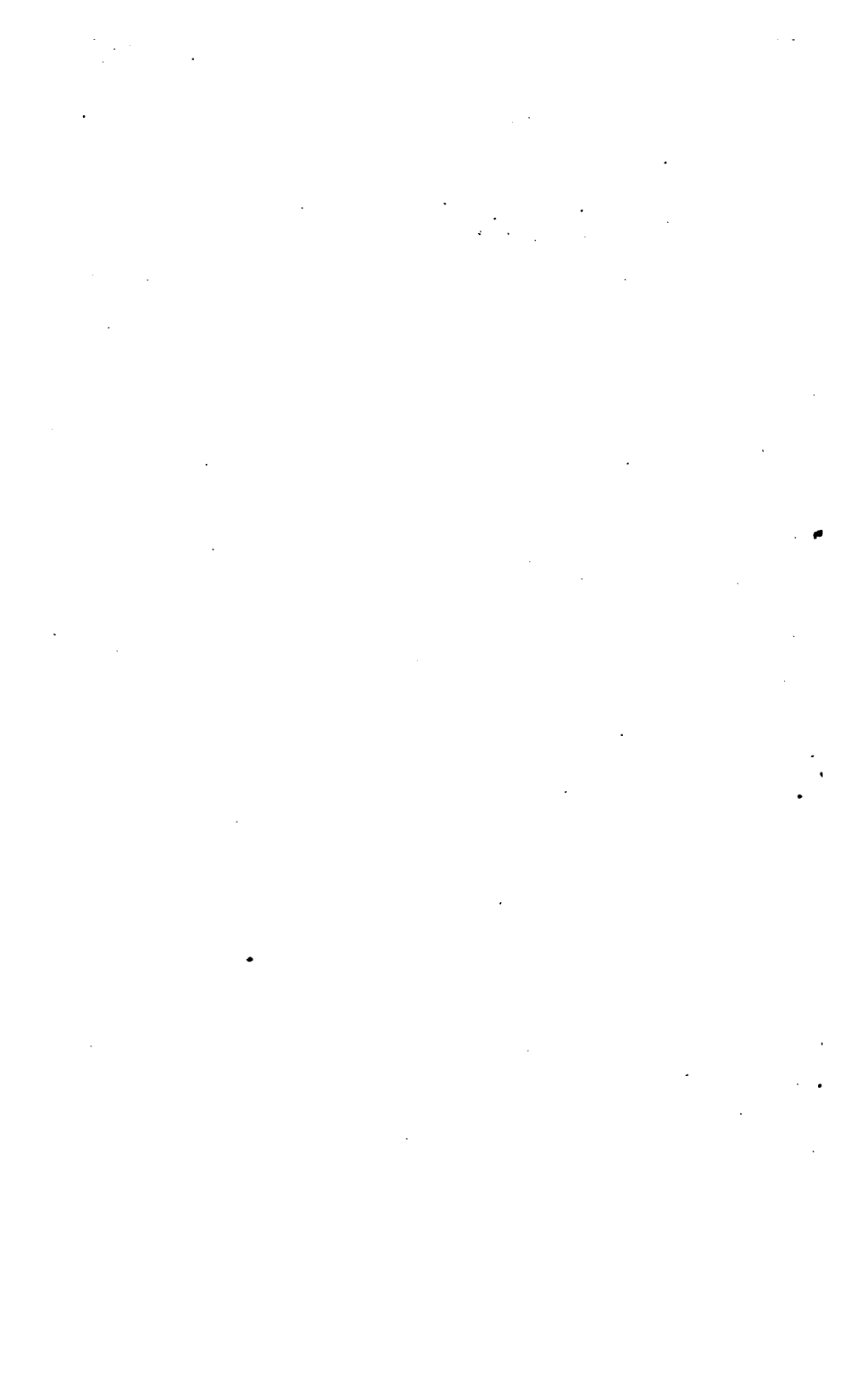


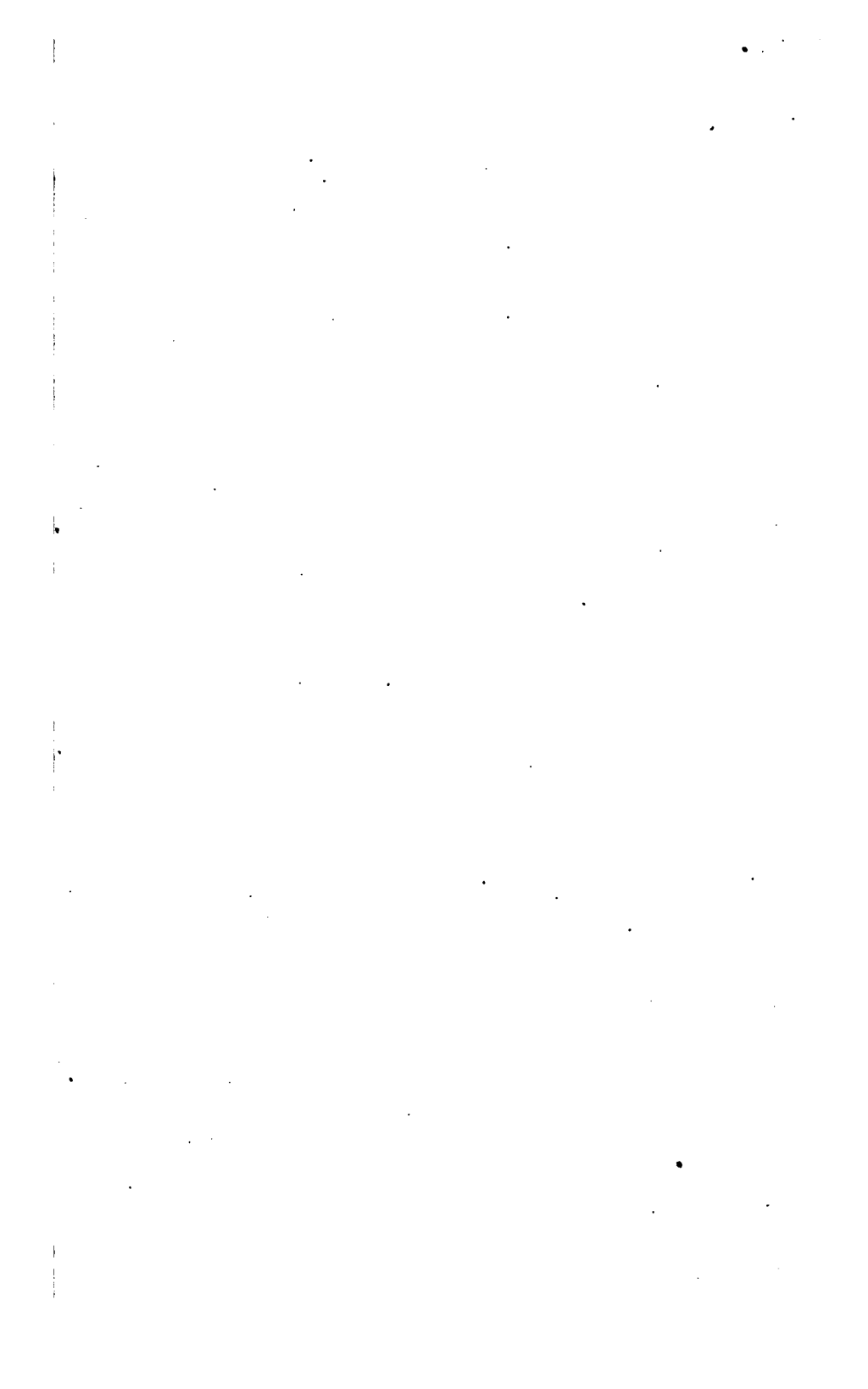
132
7/6/51

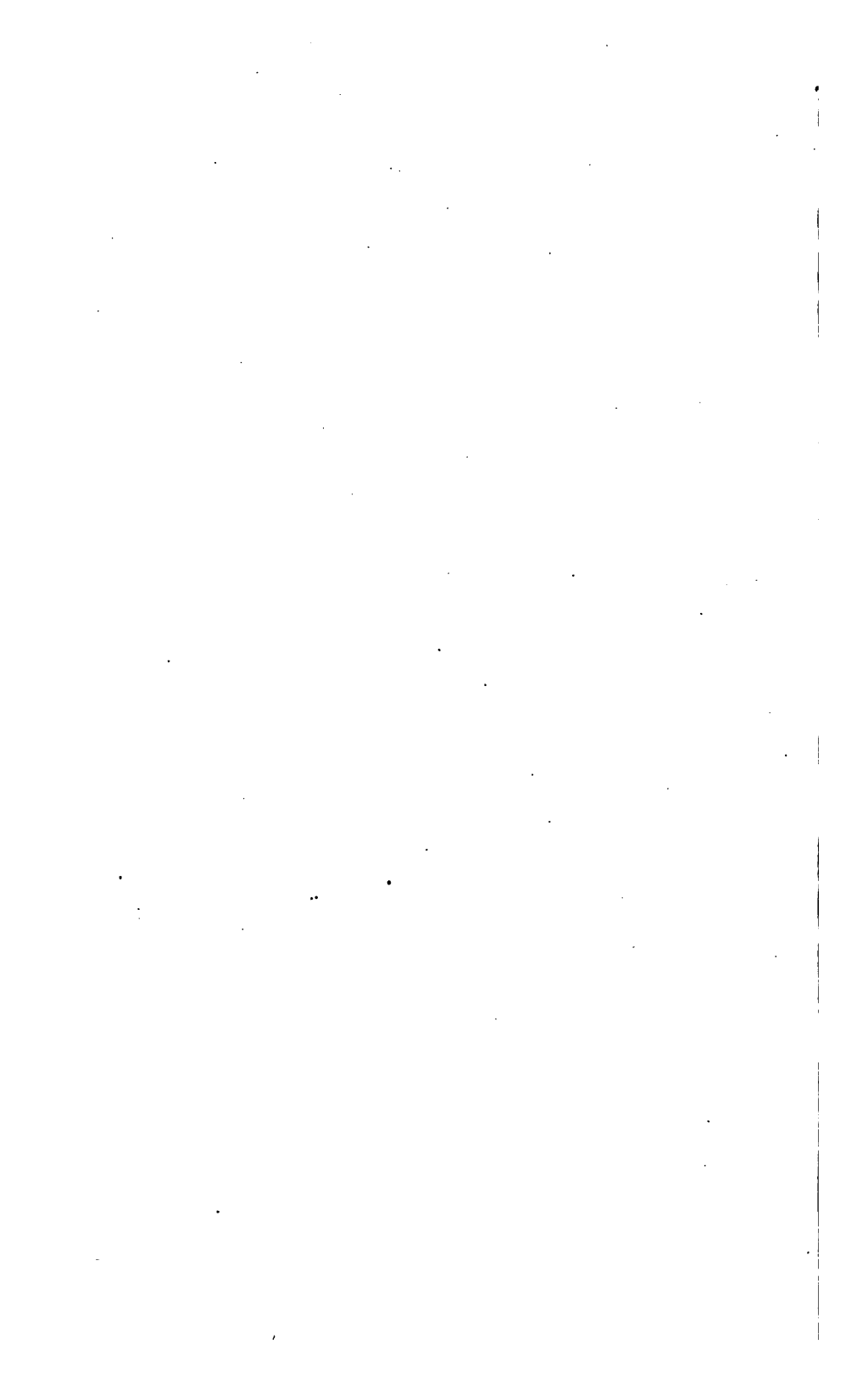


SCIENCE LIBRARY

QE
375-
.R66







A
CATALOGUE
OF
AMERICAN MINERALS,
WITH THEIR
LOCALITIES;
INCLUDING ALL WHICH ARE KNOWN TO EXIST IN THE
UNITED STATES AND BRITISH PROVINCES,
AND HAVING THE
TOWNS, COUNTIES, AND DISTRICTS IN EACH STATE AND PROVINCE
ARRANGED ALPHABETICALLY.
WITH AN
APPENDIX,
CONTAINING
ADDITIONAL LOCALITIES AND A TABULAR VIEW.

BY SAMUEL ROBINSON, M. D.
MEMBER OF THE AMERICAN GEOLOGICAL SOCIETY.

—◆—
BOSTON :
PUBLISHED BY CUMMINGS, HILLIARD, & CO.
1825.

DISTRICT OF MASSACHUSETTS, TO WIT.

District Clerk's Office.

BE it remembered, that on the nineteenth day of March, A. D. 1825, and in the forty-ninth year of the independence of the United States of America, SAMUEL ROBINSON, of the said district, has deposited in this office the title of a book, the right whereof he claims as author, in the words following, to wit:

"A Catalogue of American Minerals, with their localities; including all which are known to exist in the United States and British Provinces, and having the towns, counties, and districts in each state and province arranged alphabetically. With an Appendix, containing additional localities and a tabular view. By Samuel Robinson, M. D. member of the American Geological Society."

In conformity to the act of the Congress of the United States, entitled "An act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies, during the times therein mentioned;" and also to an act, entitled, "An act supplementary to an act, entitled, 'An act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies, during the times therein mentioned,' and extending the benefits thereof to the arts of designing, engraving, and etching historical and other prints."

JNO. W. DAVIS,
Clerk of the District of Massachusetts.

CAMBRIDGE :—University Press, Hilliard & Metcalf.

031 My 16 75.

PREFACE.

THE author commenced the compilation of the following Catalogue of American Minerals for his own use ; having in many instances experienced much difficulty in finding localities which had been published, and in ascertaining what minerals were near him in his excursions : but believing it may be as useful to others as to himself, he is induced to offer it to the public.

Professor Cleaveland's work is sufficient authority for localities of minerals, in the closet ; but in travelling to collect specimens, the mineralogist, who wishes to know what minerals may be found in the district of country he is passing through, is obliged to look over the whole work, together with the American Journal of Science, and other publications.

This Catalogue is not only calculated for a guide to those who are travelling to make collections ; but to the mineralogist who is stationary, it presents a condensed view of the minerals he may wish to obtain. As this is not meant for an elementary work, the author has not generally given a description of the mineral, unless it appears in an uncommon form or color ; but he has frequently given its geological situation, as, in some instances, it was the best direction for its locality he was enabled to obtain. He is principally indebted to " Cleaveland's Mineralogy," and " The American Journal of Science," for the localities in this Catalogue, but

he has made considerable additions from the publications of Dr. John H. Steel, Henry Schoolcraft, Esq., Isaac Lea, Prof. Eaton, Prof. F. Hall; also, from the Messrs Dana's Mineralogy of Boston and its Vicinity, The Journal of the Academy of Natural Sciences of Philadelphia, The Annals of the Lyceum of New York, The Boston Journal of Philosophy, &c. And he feels himself under particular obligations to those gentlemen, who have contributed to swell this Catalogue by their communications of new localities, and whose names will appear in their proper places.

The author regrets that he has been unable to state more particularly the *course* and *distance* of many localities from some known place or object in the town where they have been found, so that strangers might more easily find them; the inconvenience resulting from a want of a more particular description of many localities, is sensibly felt. Besides the additional localities, this Catalogue contains about 70 minerals, which are not noticed in Prof. Cleaveland's last edition, of 1822, as having been found at that time in the United States.

From the increasing attention to the science of Mineralogy, manifested in the United States, and from the pleasure and usefulness attendant on its pursuit, it is to be hoped the time is not distant when our young men will not feel satisfied that their education is complete on leaving our Colleges, without being able to distinguish the common minerals, or name the stones which are daily presented to their view.

But one name for the same mineral has, in general, been used; the author believing, that the adoption of the different names of various writers on Mineralogy, would be increasing the perplexity of the student, and continuing an evil we wish to remedy.

The minerals are arranged agreeably to Professor Cleaveland's Tabular View, where it was convenient; but as locali-

PREFACE.

v

ties are taken also from Professor Silliman's Journal, commencing with the first volume, and then from other sources, it was impossible to arrange them systematically.

Authority is given for all localities, where it was practicable ; but for those having no authority attached to them, the author feels himself responsible. By this Catalogue it will be seen that the United States possess abundant sources of some of the most useful minerals : as Nitre, Gypsum, Flint, Buhrstone, Marble, Serpentine, Porcelain Clay, Anthracite, Graphite, Coal, Peat, Mercury, Copper, Iron, Lead, Zinc, Manganese ; and, of the stones used in jewelry, Rock Crystal and its colored varieties, Amethyst, Prase, Chalcedony, Carnelian, Chrysoprase, Jasper, Agate, Chrysoberyl, Zircon, Adularia, Nephrite, Emerald, Beryl, Precious Garnet, Idocrase, &c. The number of localities may be seen by reference to the Tabular View, annexed.

To render this work conveniently portable, and as small as is consistent with its object, the names of those who either discovered, or communicated the localities of minerals in *Cleaveland's Mineralogy*, or in the *American Journal of Science*, are not mentioned ; but references to those publications, and others, are abbreviated, as will be seen below.

EXPLANATION

OF THE ABBREVIATIONS USED FOR THE PUBLICATIONS REFERRED TO
IN THIS WORK.

- (C.) refers to "*Cleaveland's Mineralogy*," 2d Edition. 1822.
(Sil. 4.44.) — "The *American Journal of Science*," &c. by Prof. Silliman, Vol. 4, page 44, &c.
(Bruce.) — "The *American Mineralogical Journal*, by Archibald Bruce, M. D. 1814."
(Dana.) — "Outlines of the *Mineralogy and Geology* of Boston and its Vicinity, by J. F. Dana, M. D. and S. L. Dana, M. D. 1818."

- (*Lea.*) — "An account of the Minerals in the vicinity of Philadelphia, by Isaac Lea. 1818."
(*Sch.*) — "A view of the Lead Mines of Missouri, &c.", by Henry R. Schoolcraft. 1819."
(*Morse.*) — "Morse's Geography. 1819."
(*E.*) — "The Index to the Geology of the Northern States, 2d Edition, by Prof. Amos Eaton. 1820."
(*Nuttall.*) — "A Journal of Travels into the Arkansa Territory, during the year 1819, by Thomas Nuttall, F. L. S. &c. 1821."
(*Steel.*) — "A report of the Geological Structure of the county of Saratoga in New York, by Doct. John H. Steel. 1822."
(*N. G.*) — "New Hampshire Gazetteer, published by John Farmer and Jacob B. Moore. 1823."
(*Hall.*) — Prof. F. Hall's "Catalogue of Minerals. 1824."
(*Webster.*) — "A Catalogue of the Minerals in the state of New York, by M. H. Webster, 1824."
(*J. A. N. S. P.*) — "The Journal of the Academy of Natural Sciences in Philadelphia."
(*A. L. N. H. N. Y.*) — "Annals of the Lyceum of Natural History of New York."
(*J. W. W.*) — Dr. J. W. Webster, and to "The Boston Journal of Philosophy," &c.
(*O.*) — Denison Olmsted, M. A. G. S. Professor of Chemistry, &c. in the University of North Carolina.

INDEX.

| | Pages. | | Pages. |
|----------------------|-------------|----------------------|----------|
| Maine | 1, 278, 304 | Georgia | 222 |
| New Hampshire | 9, 279 | Florida | 224, 303 |
| Vermont | 17, 280 | Alabama | 224 |
| Massachusetts | 35, 280 | Mississippi | 225 |
| Rhode Island | 79, 290 | Louisiana | 226 |
| Connecticut | 92, 291 | Tennessee | 226, 303 |
| New York | 114, 292 | Kentucky | 228 |
| New Jersey | 159, 298 | Ohio | 231 |
| Pennsylvania | 177, 300 | Indiana | 237 |
| Delaware | 194, 302 | Michigan | 239 |
| Maryland | 195, 302 | North West Territory | 241 |
| District of Columbia | 202 | Illinois | 243, 304 |
| Virginia | 203, 302 | Missouri | 246, 304 |
| North Carolina | 210 | Arkansas | 255 |
| South Carolina | 220 | | |

BRITISH PROVINCES.

| | Page. |
|---------------|-------|
| Nova Scotia | 261 |
| New Brunswick | 262 |
| Lower Canada | 263 |
| Upper Canada | 266 |
| Labrador | 276 |

ERRATA.

- Page 2, line 10, under BRUNSWICK, after *Epidote*, dele *Manganesian*.
 " 3, (*J. P.*) refers to John Pedrick, 3d.
 " " Under HARPSWELL, for *Pyrites*, *Coxcomb*, read *Radiated Sulphuret of Iron*.
 " 7, under TOPSHAM, after *Epidote*, dele *Manganesian*.
 " 14, 73, 114, 123, and 124, for *Basanite* read *Siliceous Slate*.
 " 72, line 1, add (*C.*) after *Clay Slate*.
 " 74, under WEST SPRINGFIELD, for *Fibrous Hornblende* read *Fibrous Limestone*.
 " 83, article 4th, and 86 under JOHNSON, and 87 under NORTH PROVIDENCE, and 91 under SMITHFIELD, for *Steatite* read *Potstone*.
 " 116, line 11 from the top, for (*Webster.*) read (*Bruce 5.*)
 " 159, " 1, under ALLENTOWN dele *and*.
 " 166, " 7 from the bottom, for *Hyat* read *Hydrate*.
 " 171, " 4 from the top, for *tena* read *terra*.
 " 200, " 7 from the bottom, for *NEW MARKET* read *NEW MARKET*.
 " 202, " 1 & 2 from the top, dele *Flint, &c.*, both lines.
 " 222, " 5 from the bottom, add (*C.*) after *chalk*.
 " 228, " under CALDWELL Co. for (*T. A. Greene.*) read (*W. Greene.*)
 " 249, MAHA VILLAGE should be on page 251.
 " 256, line 9 from the top, for *north* read *mouth*.
 " 277, " 8 from the top, add *T. N.* after *copper*.

CATALOGUE

OF

AMERICAN MINERALS.

MAINE.

BATCHELDER'S GRANT. (Oxford Co.)

Sulphuret of Lead at this place, and on land owned by S. A. Bradley, Esq. of Fryeburg; specimens very good. It has not been much explored. (*E. L. Hamlin.*)

BANGOR.

Granular Limestone, about 100 m. N. of Bangor, and 15 m. N. W. from Ktaadn mountain on the west branch of Penobscot river. It resembles the Italian statuary marble. *Jasper*, in detached masses on Penobscot river. (*C.*)

BATH.

Beryl is found more or less in a coarse grained granite, from 5 m. E. of Bath, to 5 m. W. of North Yarmouth, about 30 miles.

Garnet, manganesian, massive, at Jones' Eddy near Bath. *Graphite*, in granite. (*C.*)

BELFAST.

Hornstone, near.

Jasper, in detached masses on Penobscot river.

Micaceous Oxide of Iron, near. (*C.*)

MAINE.

BOWDOIN.

Schorl, common, very abundant. (C.)

BOWDOINHAM.

Schorl, very large, perfect, and abundant, sometimes in very white quartz.

Beryl, large crystals in graphic granite, also in coarse grained granite, large, pale green, or greenish white, six sided prisms. (C.)

BRUNSWICK.

Granular Limestone, in beds.

Mica, sometimes very beautiful green.

Schorl, black, masses sometimes contain fragments of quartz, and feldspar.

Feldspar, sometimes white, granular, and contains very minute garnets.

Adularia, in minute crystals in cavities, contained in granite.

Garnet, sometimes orange red.

Epidote, *arenaceous*, on the banks of the Androscoggin, between strata of gneiss.

Epidote, *manganesian*, sometimes in crystals, generally granular or compact, in veins traversing granite, gneiss, greenstone, &c.

Hornblende, fibrous, in large proportions, with white granular limestone, and a little mica, forming a fissile aggregate, contiguous to primitive limestone.

Actynolite, all its varieties ; sometimes in granite and gneiss, more frequently in limestone, with *Granular Quartz* ; it forms a stratified rock of considerable extent.

Macle in small quantities.

Talc, in *granular limestone*, with *actynolite* and *sulphuret of iron* ; silver white, and apple green.

Graphite, in limestone, and on the banks of the Androscoggin, in rolled pieces.

Pyritous Copper, with sulphuret of molybdena in granite.

Sulphuret of Iron, often in *argillite* and mica slate.

Magnetic Pyrites, in granular limestone, with common pyrites in cubes, green talc, &c.

Sulphuret of Molybdena, on the banks of the Androscoggin, abundantly disseminated in granite and gneiss. Sometimes finely crystallized in short hexaedral prisms, or rather in

MAINE.

3

tables or thin plates, sometimes associated with a yellowish or greenish yellow
Oxide of Molybdena in the form of a crust or efflorescence. (C.)

BUCKFIELD.

Sulphuret of Iron.

Magnetic Oxide of Iron.

Ochrey brown Oxide of Iron, good color.

Sulphuret of Molybdena, with sulphuret of Iron. (C.)

CAMDEN.

Bog Iron ore. (J. P.)

EAST ANDOVER.

Sulphate of Iron, efflorescent, and abundant. (C.)

FAIRFAX.

Sulphuret of Iron, often in argillite and mica slate. (C.)

FREEPORT.

Graphite, in a friable granite. (C.)

GARDINER.

Schorl, very abundant. (C.)

GEORGETOWN.

Macle, in small quantities. (C.)

GORHAM.

Graphite. (C.)

GREENWOOD.

Graphite, 6 m. from Paris Court House. (C.)

Schorl, with graphite.

HARPSWELL.

Staurotide, in mica slate, abundant.

Pyrites, coxcomb, in globular and botryoidal masses. (C.)

HEBRON.

Sulphate of Iron, forming an efflorescence. (C.)

Anthracite. (Wm. Lincoln.)

MAINE.

HALLOWELL.

Staurolite.

Schorl, common, very abundant.

Novaculite, 80 or 90 m. from near H., the forks of the Kennebeck ; very abundant. (C.)

LETTER E. (township,) Oxford Co.

Staurolite, in all its variety of forms, in great abundance, in mica slate, with beautiful small

Garnets. (E. L. Hamlin.)

LITCHFIELD.

Schorl, common, very abundant. (C.)

LOVELL.

Amethyst, crystallized and amorphous ; beautiful. One crystal was found, eight and a half inches in diameter, perfectly terminated, very transparent, and fine colour. (E. L. Hamlin.)

LUBECK.

Manganese, at Stewart's neck. (J. P.)

MOUNT DESERT.

Sulphuret of Molybdena, near Pretty Marsh mills, forming narrow veins. (C.)

NEWFIELD.

Fuller's Earth, greenish grey, brownish, or yellowish, in veins 20 feet below the surface. (C.)

NEW GLOUCESTER.

Garnet, amorphous. (J. P.)

NORTH YARMOUTH. See Bath.

PARIS.

Black Schorl, large, well defined crystals.

Emerald, in granite.

Graphite.

Arsenical Iron, in granite.

Magnetic Oxide of Iron.

Ochrey brown Oxide of Iron, good colour, and used as a pigment.

Sulphuret of Molybdena, with

Sulphuret of Iron. (C.)

Lepidulite, of great beauty.

Tourmaline, green and blue, and

Rubellite, in granite with

Cleavelandite. (J. W. W. 1.190.)

Emerald, in six sided prisms, frequently 5 or 6 inches long, very beautiful on Streiked mountain.

Green Tourmaline, on Chelsey's ledge, about 1 m. E. from the court house, in an aggregate of feldspar, beautifully laminated, and quartz of a granular structure; some 3 inches in length, with triedral terminations; uncommonly beautiful and abundant. Also in *acicular crystals*, six or eight inches in length, frequently terminated with the *rubellite*.

Rubellite, fine crystals, same place; frequently inclosed in the green tourmaline.

White Tourmaline, same place. Some specimens, sometimes uniting the red, green, and white tourmaline.

Indicolite, same locality, and passing into the

Black Schorl, which is here very abundant.

Lepidulite, in great abundance at this place, sometimes crystalized in six sided tables, and forming short columns.

Mica, beautiful specimens, particularly the *plumose* lying upon the edges of the crystalized masses. Black crystals are found enclosed in white.

Emeralds are also found at the same locality.

Arseniate of Iron, one considerable specimen has been found at this place.

Tungsten, ? same place. (E. L. Hamlin.)

Garnets,

Epidote, and

Argillaceous Oxide of Iron, at Rumford Falls, (J. P.)

PARKER'S ISLAND. (In the *Kennebeck*.)

Schorl, sometimes translucent at the edges, and transmits a brownish light. (C.)

PHIPSBURG.

Chalcedony, in small quantities. (J. P.)

READFIELD.

Andalucite, one specimen only has been discovered, supposed from granite. (C.)

MAINE.

RUMFORD.

Yellow Ochre, (Ochrey brown oxide of Iron,) good. (C.)
Mica, in small plates; brownish black. (Hall.)

SACO RIVER.

Sulphuret of Antimony, on Saco river. (C.)

SIDNEY.

Staurotide. (C.)

THOMASTOWN.

Granular Limestone, in beds.
Marble, white and coloured, very abundant.
Sulphuret of Lead, in limestone.
Oxide of Manganese; it occurs compact in limestone. (C.)
Laminated Calcareous Spar.
Rhomb Spar.
Aragonite.
Tremolite.
Hornblende, resembling hypersthene.
Sulphuret of Copper, in a vein of quartz two feet wide, traversing granite, near the shore.
Sulphuret of Iron, in carbonate of lime.
Magnetic Iron Pyrites. (J. P.)

TOPSHAM.

Phosphate of Lime, (Apatite,) in pale green crystals, often badly defined, disseminated in granite, three or four inches below the surface of the mass, which also abounds with garnets.
Smoky Quartz, amorphous masses are not uncommon, and it is sometimes crystallized.
Rose red Quartz, (Bohemian ruby,) in masses or small beds, in granite, and in loose fragments, scattered among masses of granite and gneiss, sometimes imperfectly crystalline.
Fetid Quartz, in loose masses which often contain very large Crystals of Feldspar and Garnet.
Hornstone.
Basanite, in rolled pieces on the banks of the Androscoggin.
Mica, almost every variety is found at Topsham, near Bowdoin College, often in six sided tables, also in rhomboidal prisms.

Feldspar, a fragment of an uncommonly large crystal was found.

Green Feldspar in imperfect crystals, imbedded in an aggregate of mica and quartz.

Beryl, near Bowdoin College, sometimes imbedded in graphic granite, and often in a brittle smoky quartz in a large grained granite. This granite forms veins in gneiss, and the beryl sometimes appears in the contiguous gneiss. The crystals often well defined hexaedrel prisms, transparent, and perfectly resembling the Siberian Beryl, colors, pale green, yellowish, blueish, or whitish. In the same granite are a few crystals of a pure, uniform, rich green, and obviously belong to the

Precious Emerald.

Precious Garnet, and Common Garnet. Crystals, size less than the head of a pin to several inches in diameter, color from an opaque reddish brown to a transparent lively red, one contained a crystal of beryl.

Epidote, manganesian; sometimes in crystals, but usually granular, or compact, in veins traversing granite, gneiss, greenstone, &c.

Granular Epidote, in veins more than a foot in width, and containing quartz and

Schorl, intermingled sometimes traverse granite.

Amianthoide, in an aggregate of quartz and hornblende with epidote.

Chlorite, earthy, in granite, either disseminated, or filling cavities whose sides are lined with projecting *crystals of feldspar*.

Magnetic Oxide of Iron, disseminated in granite; generally in octaedral crystals, some of which are two inches in diameter.

Native Magnet. Its polarity sometimes very strong.

Sulphuret of Lead, in granite.

Red Oxide of Titanium. (C.)

WATERFORD.

Phosphate of Lime, with quartz, bright green, partially crystallized on the farms of Maj. Theodore Stone, and Mr. Jonathan Plummer, abundant.

Amethyst, a large number of crystals found in sinking a well on Mr. Oliver Stone's farm.

Bog Iron Ore, in Thomas's pond, furnishing fine specimens of the botryoidal, mamillary, and stalactical formations—in small quantities. (E. L. Hamlin.)

MAINE.

WATERVILLE.

Clay Slate, on the banks of the Kennebeck, about 20 m. above Hollowell, good. (C.)

WILLIAMSBURG.

Clay Slate, nearly vertical, some of it suitable for table slate. (C.)

WINSLOW.

Clay Slate, on the banks of the Kennebeck, about 20 m. above Hollowell, good. (C.)

WINTHROP.

Staurotide, very abundant in mica slate, crystals various sizes ; they frequently contain minute *garnets*, or scales of *mica*.
Sulphuret of Iron, very abundant. (C.)

NEW HAMPSHIRE.

ALSTEAD.

Mica, very large plates in quartz, abundant.
Macle, in *argillite*, usually in imperfect crystals. (C.)
Staurotide, in mica slate. (Sil. 5.40.)

AMHERST.

Magnetic Oxide of Iron, in rhombic dodecaedrons in granite,
 or in veins of
Feldspar, traversing granite. (C.)
Limpid Quartz, crystallized, very abundant. (J. P.)

ANDOVER.

Milky Quartz, near the mountains, amorphous. (N. G.)

BARRINGTON.

Limpid Quartz, in perfect crystals.
Tourmaline.
Graphite.
Bog Iron Ore. (N. G.)

BARTLETT.

Smoky Quartz, crystallized. (J. P.)

BATH.

Alum. (N. G.)

BEDFORD.

Alum.
Limpid Quartz, crystallized.
Mica, black, green, and yellow.
Schorl.
Epidote.
Hornblende.
Talc.

Graphite.

Pyritous Copper.

Red Oxide of Iron. (*N. G.*)

BELLOWS FALLS.

Staurotide, near, in

Argillite.

Pinite, near the surface of granitic rocks.

Macle, in argillite. (*C.*)

Micaceous Oxide of Iron, very beautiful, fine grained, in large masses, near. (*Sil.* 1.50.) This micaceous oxide of iron is found at Jamaica, Vt. and not at Bellows Falls. (*Sil.* 3.232.)

BRENTWOOD.

Sulphur, in masses of

Sulphate of Iron, in the iron ore mines. (*N. G.*)

BRISTOL.

Graphite, large specimens—equal to the Borrowdale, abundant. (*Sil.* 6.245.)

BURTON.

Hornstone.

Feldspar, abundant. (*N. G.*)

CHARLESTOWN.

Cyanite, 5 m. E. from the village, dark blue color, imbedded in quartz, abundant.

Macle, in argillite, usually in imperfect crystals. (*C.*)

CHESTER.

Tremolite, bladed and abundant, near the Devil's den.

Graphite, in rolled masses, and in veins traversing mica slate. (*C.*)

Native Sulphur, is found in small quantities, in tremolite. Graphic Granite. (*N. G.*)

CHESTERFIELD.

Brown Oxide of Iron, on West River mountain, which is situated on the east side of Connecticut river, opposite Brattleborough, E. village, in mica slate. (*C.*)

NEW HAMPSHIRE.

11

Native Silver, on West River mountain. (Sil. 3.74.)

Staurotide, in mica slate, large crystals; abundant. (Sil. 5.271.)

Crystals have been found $1\frac{1}{2}$ inch diameter, and $2\frac{1}{4}$ inches long in the valley S.W of the meeting-house. (Sil. 6.219.)

CHICHESTER.

Schorl. (N. G.)

CONWAY.

Fuller's Earth. (N. G.)

CORNISH.

Macle, in argillite. (C.)

CROYDON.

Macle, in argillite. (C.)

ENFIELD.

Green Quartz.

Sulphuret of Lead. (Sil. 8.235.)

EXETER.

Epidote, in very beautiful groups of radiating crystals. (C.)

Hornblende. (N. G.)

FRANCESTOWN.

Ferruginous Quartz, red and yellow, beautifully crystallized.
Steatite. (N. G.)

FRANCONIA. (Grafton Co.)

Epidote, in the iron mine, light yellow, acicular crystals.

Magnetic Oxide of Iron, (earthy,) near, 8 m. E. from Connecticut river, a bed 5 to 8 feet thick in gneiss; the ore is compact or fine grained, and bluish grey, and is accompanied by *garnet*, *epidote*, and *hornblende*. (C.)

Hornblende, superb specimens, crystallized, imbedded in *lamellar hornblende*, or confusedly aggregated—bladed and promiscuous, in quartz, abundant at the iron mines.

Green Quartz, containing hornblende—colored by epidote; beautiful specimens.

Staurotide.

Garnet, amorphous, and imperfectly crystallized at the iron mine.

Epidote, crystallized, same place.

Asbestos, in masses, or rather sheets of 1 or 2 inches thick, and of various extent, the fibres are intimately united, and curved in every direction.

Sulphuret of Copper. (*Sil.* 6.245.)

Arsenical Cobalt, beautiful crystals in octahedra. (*Sil.* 8.198.)

Blue Carbonate of Copper, earthy.

Green Carbonate of Copper—do. rare. (*Sil.* 8.234.)

GILMANTOWN.

Ferruginous Quartz, red and yellow, beautifully crystallized.
Hornstone.

Jasper.

Mica, very fine specimens.

Schorl, in quartz, radiating, and passing through it in all directions.

Epidote.

Tremolite.

Ochrey Brown Oxide of Iron.

Sulphate of Iron. (*N. G.*)

GRAFTON.

Mica, in large laminæ adhering to quartz. (*C.*)

GRAFTON CO.

Schorl, on Moosehillock mountain, in quartz, very beautiful.
(*Prof. Dewolf.*)

HAMPTON FALLS.

Amethyst, in rolled pieces. (*C.*)

HANOVER.

Precious Garnet, in dodecaedrons in greenstone, near Dartmouth College. (*C.*)

Carbonate of Iron, in rolled masses of quartz, on the banks of Connecticut river. (*Sil.* 6.245.) *Precious Garnet* is found a few rods N. E. from Dartmouth College, in an aggregate of quartz and hornblende. Color reddish brown.
(*Hall.*)

Ferruginous Quartz, yellow and blood red.

NEW HAMPSHIRE.

13

Black Schorl, in milk white quartz, abundant.

Epidote.

Zoisite.

Green Carbonate of Copper, earthy, in mica slate. (*Sil.* 8.235.)

Granular Limestone.

Hornblende. (*N. G.*)

HINSDALE.

Indicolite, in large crystals in feldspar and quartz. (*C.*) Also
in granite, near the road to Winchester, very abundant.

Mica. (*Sil.* 5.271.)

Schorl. (*Sil.* 5.272.)

HOPKINTON.

Sulphate of Iron. (*N. G.*)

JAFFREY.

Ochrey Brown Oxide of Iron. (*N. G.*)

KEENE.

Quartz, (rose red,) amorphous ; color, pale red. (*Hal.*)

KINGSTON.

Bog Iron Ore, in Great pond.

Ochrey Red Oxide of Iron, and

Ochrey Brown Oxide of Iron. (*N. G.*)

LANGDON.

Macle, in clay slate. (*C.*)

LANCASTER.

Emery. (*N. G.*)

LEBANON.

Sulphuret of Lead, in a vein of quartz traversing mica slate.
(*Sil.* 6.245.)

Sulphuret of Iron, mixed with

Magnetic Oxide of Iron, near the outlet of Great pond.
(*N. G.*)

NEW HAMPSHIRE.

LITTLETON.

Green Carbonate of Copper, small, needle shaped, diverging crystals. (Sil. 8.234.)

LYMAN.

Emery. (N. G.)

MASON.

Ochrey Brown Oxide of Iron. (N. G.)

MEREDITH.

Granular Limestone. (N. G.)

MONADNOCK MOUNTAIN, (Cheshire Co. 9 m. S. from Keene.)

Graphite, in nodules, having a coarse texture, on the north side of. (C.)

Sulphuret of Lead.

Fibrous Hornblende. (C. C. Baldwin.)

Schorl.

Feldspar.

Garnet. (N. G.)

MOOSEHILLOCK MOUNTAIN. (See Grafton Co.)

MOUNT WASHINGTON.

Rose Quartz. (N. G.)

NEW BOSTON.

Ochrey Brown Oxide of Iron. (N. G.)

NEW IPSWICH.

Beryl.

Kaolin. (C.)

NORTH HAMPTON.

Basanite, in scattered fragments. (C.)

NORTHWOOD.

Graphite, in small quantities, but of good quality.

Manganese, tuberos and mammillary, investing granite. (N. G.)

NOTTINGHAM.

Iron Ore, abounds in the mountains.

Bog Ore, in great quantities, and of good quality. (*N. G.*)

ORANGE.

Iron Ores, of different kinds, and ochres, of superior quality.

Sulphuret of Lead. (*N. G.*)

ORFORD.

Fetid Limestone, near, greyish white, distinctly crystallized, fetid by percussion and friction; in a primitive region. (*C.*)

Steatite, in large quantities. (*C.*) This is one of the finest localities of steatite in the United States, situated 2 m. N. from the village, on a precipitous hill, whose base is washed by the Connecticut river.

Garnet, in the vicinity of the locality of steatite, in mica slate (*Hall.*)

Granular Limestone, in great abundance.

Sulphuret of Lead was found in considerable quantities in sinking a well. (*N. G.*)

PEMBROKE.

Brown Oxide of Iron. (*C.*)

PLYMOUTH.

Sulphate of Iron. (*N. G.*)

PORTSMOUTH.

Epidote, in acicular crystals, radiated in groups, in a porphyritic hornblende.

Native Silver, one small mass 3 or 4 inches in diameter, found near, on a stone wall. (*C.*)

RINGE.

Ochrey Red Oxide of Iron.

Sulphate of Iron. (*N. G.*)

SALISBURY.

Ochrey Brown Oxide of Iron. (*N. G.*)

SURREY.

Sulphuret of Lead. (*H. M. Wells.*)

SUTTON.

Graphite, in considerable quantities, sometimes soft, compact, and of good quality. (C.)

TROY.

Graphite, 9 m. S. from Keene. (C. C. Baldwin.)

WALPOLE.

Alum, in small, greyish white efflorescences, on Fall mountain.

Mica, lamellar, often silvery white in mica slate, and rose and straw color, in granitic veins on Fall mountain.

Graphite, in the N. E. part of the town. (Hall.)

Staurotide, 1 m. from the meeting house, on the road to Keene, in mica slate. (H. M. Wells.)

WASHINGTON.

Graphite.

Antimony is said to have been found here. (N. G.)

WESTMORELAND.

Fluate of Lime, light green.

Zoisite, in ash grey, much compressed, deeply striated crystals. (C.)

Amethyst, sometimes crystallized, very beautiful specimens. (H. M. Wells.)

WEST RIVER.

Staurotide. Mica slate passing into

Granular Quartz. (Sil. 5.271.)

WHITE HILLS.

Fluate of Lime, at Rosebrook's Gap in the White mountains in small detached pieces.

Amethyst, a few rods S. E. from the Notch on the White hills in crystals.

Jasper, near the Notch of the White hills, reddish. (C.)

Beryl.

Smoky Quartz. (Hall.)

WINNEPISSIOGEE LAKE.

Hornblende, on Red hill, near the lake. (C. C. Baldwin.)

VERMONT.

ACTON.

Hornblende, crystallized in white, fine grained sandstone.
(Hall.)

ADDISON.

Sulphuret of Iron, lenticular, surface brown, interior yellow.
Magnetic Oxide of Iron, in small octaedric crystals in *argillite*. (Hall.)

ATHENS.

Steatite. (C.)
Limpid Quartz, in small beautiful crystals terminated at each extremity by a six sided pyramid.
Garnet.
Talc. (Hall.)

BARNARD.

Marl. Earthy marl has been discovered in a pond. (Hall.)

BARRE.

Steatite. (C.)

BARTON.

Amianthus, white and remarkably delicate. (C.)

BELLOWS FALLS.

Mica, rose color and straw yellow, in granitic veins traversing primitive rocks.
Indicolite, in granitic veins traversing primitive rocks.
Tremolite, in loose masses of primitive rocks. (C.)
Fluate of Lime, a few rods below the bridge in granite; also 1 m. N. W. from the falls, in quartz, crystallized and massive; green.

Quartz, limpid, crystallized and amorphous, 1. m. N. W. from the falls, and forms the gangue of the fluat of lime.

Cyanite, in loose masses of primitive rocks.

Pinite, above and below the bridge, and on Fall mountain.

The crystals are very abundant in granite on a small island a few feet above the bridge, imperfect.

Prehnite, in small nodules, radiated.

Macle, in argillite, and in mica slate, a few rods above, and also below the bridge.

Copper, green carbonate, a little below the bridge, west side of the river, on granite, and filling crevices, also in the same rock.

Fibrous Malachite, in very thin veins, rare. (Hall.)

Staurolite. (Sil. 6.219.)

Prismatic Mica, and lamillated. *Prehnite* is found crystallized on gneiss, a few rods below the locks.

Rubellite. (H. M. Wells.)

BENNINGTON.

Fluat of Lime, in an iron mine.

Brown Oxide of Iron, associated with earthy oxide of manganese.

Oxide of Manganese, compact or earthy, sometimes slightly mammillary, associated with

Hematitic Brown Oxide of Iron, abundant. Also the *Ochrey Brown Oxide of Iron*. (C.) The Iron ore rests on a bed of unknown thickness of the oxide of manganese.

Common Argillaceous Oxide of Iron. (Sil. 3.57.)

Stalactites, in a cave $\frac{1}{2}$ a m. W. from the meeting-house.

Hornstone.

Clay Slate. (Hall.)

Graphic Slate, abundant, in a small hill of *Argillite* in the S.

of Bennington containing crystals of

Sulphuret of Iron, which are often changing to the

Hepatic Sulphuret of Iron. (Sil. 8.20.)

Carbonate of Lime, crystallized, laminated variety is abundant (Sil. 8.33.)

Magnesian Limestone, a mountain of it lying directly N. of the great bed of iron ore and manganese.

Fetid Carbonate of Lime, nearly black.

Ferruginous Carbonate of Lime. (Sil. 8.35.)

Ferruginous Quartz, yellow and red, crystallized. (Sil. 8.38.)

Lithomarge? in the iron ore in the W. part of the town. (Sil. 8.53.)

Argillaceous Oxide of Iron, the granular and compact varieties. (Sil. 8.56.)

BENSON.

Flint, near the cold spring, a few rods E. of Lake Champlain, in large masses. (C.)

Argillaceous Marl, in a hollow near the top of a hill in a bed 5 feet thick. It is used for Fuller's earth. (Hall.)

BETHEL.

Preceous Garnet, in small but remarkably perfect crystals, imbedded in a steatitic rock. (C.)

Chlorite. It becomes a kind of course steatite. (Hall.)

BRANDON.

Ochrey Brown Oxide of Iron, associated with the brown and Compact Red Oxide of Iron. This ochre is found a few feet under the surface of a horizontal plain; abundant. (C.)

Sulphuret of Iron, and

Oxide of Manganese. (Hall.)

BRATTLEBOROUGH.

Clay Slate, extensively quarried.

Zoisite. (C.)

Micaceous Iron Ore, beautiful, in Ball mountain, which rises 500 feet above the water in West river. (Sil. 3.232.)

Schorl, in white quartz, large and fine. (Sil. 1.14 & 3.76.)

Tremolite. (Sil. 3.76.)

Siliceous Limestone.

Hornblende Slate.

Roofing Slate. (Sil. 5.272.)

Scapolite? in great quantities, associated with quartz, limestone, &c. and sometimes forming the gangue of the Red Oxide of Titanium. Sil. 6.225, & Hall.)

Actynolite, in very perfect capillary crystals in steatite, grouped, or radiated.

Mica, rose red, with schorl, in quartz. (Hall.)

BRIDPORT.

Fetid Limestone.

Hornstone. (Hall.)

CASTLETON.

Clay Slate, of a pale red. (C.)

Chlorite, in which are imbedded cubic crystals of

Sulphuret of Iron, of a bright yellow.

Limpid Quartz, 1 m. N. from the village, in six sided prisms in the cavities of amorphous quartz.—A fine locality for rock crystal. (Hall.)

CAVENDISH.

Serpentine, on the north side of the turnpike from Rutland to Boston, deep green, with streaks of yellow and white, (C.) in which is imbedded

Magnetic Iron. (Sil. 5.40.)

Hornblende Slate, on the turnpike 1 m. S. of Proctorsville (Sil. 7.59.)

Carbonate of Lime. (Hall.)

CHAMPLAIN LAKE.

Coccolite, in several places, near.

Bog Ore, at the N. end of. It is wrought. (C.)

CHARLOTTE.

Coccolite, green and red, &c. (C.)

Green Augite, very large crystals.

Laminated Plumbago, with

Feldspar, pearly white, and whitish quartz. (E.)

CHESTER.

Staurotide, associated with

Yellow Mica, and

Garnets. (C.)

Massive Garnet, containing

Magnetic Oxide of Iron, in regular octaedrons, brilliant, steel grey color. (Sil. 7.58.)

Greasy Quartz. (Sil. 7.59.)

Epidote, massive, and in crystals, connected with

Hornblende, some parts of which are in very beautiful grouped crystals, resembling a sheaf of wheat. Epidote is a common mineral in most parts of the state.

Sulphuret of Iron. (Hall.)

CLARENDEN.

Calcareous Tufa, deposited from the waters of a spring.
(Hall.)

CORNWALL.

Flint. (C.)

Calcareous Spar, in the western part of the town; very beautiful, transparent, rhomboidal crystals have been obtained.

Hornstone, on the late Judge Matthews' farm. (Hall.)

DANBY.

Sulphuret of Lead. (Hall.)

DORSET.

Stalactites, in caves. (Hall.)

DUMMERSTON.

Schorl, in very beautiful crystals, in detached masses of white quartz.

Clay Slate, in strata nearly vertical; extensively quarried.

Silico—Calcareous Oxide of Titanium, in crystals, or grains disseminated in granite. (C.)

FLETCHER.

Steatite, of a very excellent quality. (Sil. 7.58.)

Talc. (Hall.)

GEORGIA.

Greasy Quartz. (Sil. 7.59.)

Sulphuret of Iron. (Hall.)

GOSHEN.

Milky Quartz, in rolled masses scattered over the surface.

Oxide of Manganese. (Hall.)

GRAFTON.

Limpid Quartz, remarkably pure and transparent. (C.) 1 m.

- S. W.** from meetinghouse on Mr. Spaulding's farm, crystallized. (*Hall.*)
- Serpentine**, forming a large mass.
- Talc**, laminated, forming veins from 1 to 6 inches wide in steatite.
- Steatite**, an immense bed 2 m. S. of the meetinghouse, extensively quarried.
- Potstone**, in large quantities, (C.) 2 m. S. from centre of the township, in a bed of steatite.
- Rhomb Spar**, imbedded in steatite.
- Chlorite**, at locality of steatite.
- Milky Quartz**, usually in rolled masses.
- Greasy Quartz.**
- Cyanite**, 1 m. S. W. from the meetinghouse, on the farm of a Mr. Spaulding, in mica slate, and in massive garnet; also 1 m E. from the centre of the township, imbedded in quartz.
- Plumose Mica**, on mica slate $\frac{1}{2}$ a m. S. W. from the congregational meetinghouse.
- Schorl**, 3 m. W. from the meetinghouse, in quartz and mica slate, triangular prisms with triedral terminations.
- Garnet**, in mica and talcose slate, and in gneiss; very abundant at the bottom of ledges; also
- Massive Garnet**, on the farm of Mr. Spaulding, forming the gangue of cyanite.
- Actynolite**, in the bed of steatite, crystals larger and higher green than those at Windham.
- Hornblende**, on the banks, and in the bed of Saxon's river, where
- Fasciculite**, superb specimens, have been found. It may be seen also in abundance, in a wall formed of mica slate, talco-micaceous slate, and gneiss, on the right of the road which leads W. from Grafton meeting-house to the S. part of Windham.
- Precious Serpentine**, a globular mass of 30 or 40 tons, on the W. declivity of a small hill, in full view from the meeting-house, highly translucent.
- Sulphuret of Iron**, small brown cubes in mica slate. (*Hall.*)

GROTON.

Steatite. (C.)

GUILFORD.

Scapolite ? in abundance ; it has been called tremolite, and zoisite. (*Sil.* 6.225.)

Clay Slate, used as roof slate and writing slates. (*Hall.*)

HALIFAX.

Sulphuret of Iron, in abundance. (*Sil.* 1.115.)

HANCOCK.

Greasy Quartz.

Talc.

Steatite.

Chlorite.

Graphite, in gneiss, but not plentiful. (*Hall.*)

HARTFORD.

Cyanite, of a light bluish grey.

Sulphuret of Iron, deeply truncated on the angles of the cube, forming a solid of 14 sides. (*Sil.* 6.245.)

HARTLAND.

Aluminous Slate. (*Prof. Dewolf.*)

HIGHGATE.

Bog Ore has been discovered in great abundance in this and many other townships in the N. W. parts of the state. (*Hall.*)

HUBBERTON.

Chlorite. (*Hall.*)

JAMAICA.

Specular Oxide of Iron.

Micaceous Oxide of Iron, (*C.*) in veins in white limestone, near Turkey mountain. (*Sil.* 3.76.)

Magnetic Oxide of Iron, in
Dolomite. (*Sil.* 5.272.)

JERICO.

Hornblende, in long, capillary crystals, in an aggregate of quartz and feldspar. (*Hall.*)

KELLYVALE.

Asbestos, both amianthus and the common variety are abundant, and the fibres are sometimes uncommonly long. (C.) *Serpentine*, about 20 m. from Canada, along the declivity of a steep precipice, where occurs the *Asbestos* in rolled pieces, which, when broken, are found to contain a substance in color and texture resembling the finest cotton. The other variety is found in crevices of the rocks of serpentine, and more resembling flax. The quantity of asbestos, as well as serpentine seems inexhaustible. (Sil. 6.249.)

LAKE CHAMPLAIN. (See Champlain Lake.)

LEICESTER.

Brown Oxide of Iron. (Hall.)

LINDON.

Agaric Mineral, forming the bottom of two ponds of a number of acres in extent, used for all purposes to which spanish white is applied. (Sil. 3.234, & Hall.)

LUDLOW.

Serpentine, on the N. side of the turnpike from Rutland to Boston, deep green, with streaks of white. (C.)
Staurotide. (Sil. 6.219.)

Amethyst.

Hornblende, 1 m. S. from Proctorsville. On the E. of the turnpike is a vest quantity of slaty hornblende, with needle formed crystals of hornblende promiscuously aggregated between the layers.

Talc. (Hall.)

MANCHESTER.

Carbonate of Lime, 4 m. S. of meetinghouse resembling agaric mineral, from which is made a beautiful lime for plastering. It is disintegrated limestone in a large mass on the W. of the road from Bennington to Rutland, forming high banks of a small stream, W. of a marsh 30 or 40 rods wide. (Sil. 3.242.)

VERMONT.

25

MARLBOROUGH.

Precious Garnet, in Chlorite, (C.) beautiful specimens; (Sil. 3.76.)

Crystallized Magnesian Carbonate of Lime.

Steatite. (Sil. 5.272.)

MIDDLEBURY.

Calcareous Tufa, deposited from the waters of a spring 2 m. E. from the village.

Granular Limestone, which is wrought into

Marble, a valuable bed of fine grained, white and colored, extensively quarried. (C.) Sales in 2 years amounted to \$11,000.

Compact Limestone, in the N. and E. part of the township; abundant.

Milky Quartz, scattered over the surface, usually in rolled masses. There is an enormous mass on the surface near the eastern boundary of Middlebury.

Greasy Quartz.

Granular Quartz, on the western side of the Green mountain, 5 m. from the village; white and friable.

Hornstone.

Jasper, in rolled fragments, red and yellow, in the bed of Middlebury river.

Epidote, crystallized and massive, in a greenish aggregate, of quartz, hornblende, &c. in which are seams of white carbonate of lime; most of it is in small nodules of a crystalline structure. On Chipman's hill, on the road from the old College to Weybridge, and a number of other places.

Serpentine, in small isolated masses.

Indurated Talc, of an uncommonly green aspect, in thin strata between the layers of the siliceous carbonate of lime.

Chlorite.

Potter's Clay; large quantities of common earthen ware are manufactured from it.

Magnetic Octahedric Crystals of Iron, small and very imperfect in chlorite. (Hall.)

MILTON.

Sulphuret of Iron. (Hall.)

VERMONT.

MONKTON.

Kaolin, a very extensive bed, on the E. side of a ridge of land running nearly N and S. The pure kaolin is covered about 15 feet, by loose, red earth, quartz sand, and sandy kaolin, with fragments of quartz,

Feldspar and Graphic Granite, interspersed. This kaolin is used as putty, and for the manufacture of pots for melting glass. (C.)

About 1 m. N. from the iron ore mine. (Hall.)

Brown Oxide of Iron, (C.) in vast abundance, cylindrical, botryoidal, mammillary, tuberous, &c. often extremely beautiful. (Hall.)

Oxide of Manganese, crystallized and earthy, in connexion with brown hematite. (C.)

Ochrey Brown Oxide of Iron. (Hall.)

MONTPELIER.

Scaly Talc, spread on the surface of common quartz.

Sulphuret of Iron, crystallized and amorphous, in quartz. (Hall.)

MOUNT HOLLY.

Asbestos, the ligniform variety. (C.)

Common Asbestos, and the ligniform, are found in vast quantity. (Sil. 4.25.)

Greasy Quartz. (Sil. 7.59.)

Amianthus, 4 m. S. from Sprague's tavern, associated with common asbestos and

Fossil Leather, very abundant. (Hall.)

NEW FANE.

Actynolite, crystallized, in

Steatite.

Scaly Talc, (C.) laminated in a vein in steatite.

Limpid Quartz, amorphous, very abundant, near the meeting-house. A stone wall several rods long is made with it.

Garnet.

Specular Iron, sometimes covering quartz and other minerals. (Hall.)

Micaceous Iron, very beautiful. (Sil. 5.255.)

Calcareous Spar,

Rhomb Spar,

Chalcedony,
Chrysoprase, in veins in serpentine.
Asbestos.
Diallag-, and
Precious Serpentine, steatite.
Serpentine.
Indurated Talc, actynolite,
Potstone,
Chlorite, scaly talc,
Pimelite ? in veins in serpentine, accompanying the chrysoprase, which in some specimens, it almost envelops. All at the same locality. (*Sil.* 8.234.)

NEW HAVEN.

Greasy Quartz.
Diallage, or smaragdite, green, in serpentine. (*Hall.*)

NEWTOWN.

Green Talc, beautiful. (*Sil.* 5.268.)

NORTHFIELD.

Dolomite ? white as snow. (*Sil.* 3.245.)

NORWICH.

Cyanite, in laminated masses, with quartz and mica. (*Hall.*)

ORLEANS CO.

Novaculite, in *Hailey*, L. C. near Vt. line, on the eastern shore of lake Memphremagog, 7 m. from Stanstead village, of superior quality, and very abundant. (*Sil.* 5.406.)

ORWELL.

Flint, on Mount Independence. (*C.*)
Compact shell limestone.
Hornstone. (*Hall.*)
Calcareous Spar, in beautiful transparent rhombs.
Sulphuret of Zinc, brown variety.
Calcareous Tufa, deposited from the water of springs.
Sulphuret of Copper, and the
Green Carbonate of Copper, on Mount Independence, in quartz.

Sulphuret of Zinc, associated with the sulphuret and carbonate of copper; in quartz, same place. (*H. M. Wells.*)

PAWLET.

Clay Slate, color sometimes blood red. (*Hall.*)

PEACHAM.

Cyanite, in small quantities.

Tourmaline, in Peacham and its vicinity.

Garnets, small.

Serpentine, very abundant. (*Sil.* 6.249.)

Earthy Marl, containing small shells, abundant. (*Hall.*)

PITTSFORD.

Granular Limestone. An extensive quarry of marble is opened here.

Flexible Marble.

Ochrey Brown Oxide of Iron, in beds and veins in limestone.

It is explored. (C.) The iron ore wrought in this town on the spot is chiefly of this variety, and is quite friable. (*Sil.* 3.58.)

Hematitic Brown Oxide of Iron, in immense quantity.

Oxide of Manganese. (*Hull.*)

PLYMOUTH.

Carbonate of Lime. (*Hall.*)

POULTNEY.

Chlorite, and

Chlorite Slate.

Sulphuret of Iron, in cubes in chlorite. (*Hall.*)

POWNALE.

Alum, efflorescing on

Aluminous Slate, contained in common

Clay Slate, (C.)

Chlorite Slate. (*Sil.* 8.52.)

PUTNEY.

Fluate of Lime, in mica slate, which is passing into clay slate, massive, emerald green, occasionally with a tinge of purple.

Staurotide, in mica slate, (C.) large grey crystals crossing each other. (Hall.)

Siliceous Limestone, imbedded in

Clay Slate.

Serpentine. (Sil. 5.272.)

Nodular Argillaceous Oxide of Iron, in beds of common clay, oval and elongated, embracing an earthy nucleus. (Sil. 6.233.)

RANDOLPH.

Scintillating Carbonate of Lime, of a pale sky blue, found in layers, in blocks and masses, disseminated among the

Clay Slate, that covers the greatest part of the townships in this vicinity. (Sil. 1.241.)

READSBOROUGH.

Actynolite, very beautiful. (C.)

Graphite, foliated in limestone. (H. M. Wells.)

RICHMOND.

Magnetic Oxide of Iron, in small octaedral crystals in mica slate. (Hall.)

RIPTON.

Hematitic Brown Oxide of Iron, on land belonging to the Hon. D. Chipman. (Hall.)

ROCKINGHAM.

Clay Slate. (C.)

Alum, at a place called "Horse heaven."

Epidote.

Hornblende, with

Chlorite.

Aluminous Slate, in argillaceous slate, which is quarried, at "Horse heaven." (Hall.)

Smoky quartz. (H. M. Wells.)

ROYALTON.

Precious Garnet, in small but remarkably perfect crystals in a steatitic rock. (C.)

Hornblende, capillary crystals, in mica slate. It occurs massive or crystallized in all parts of the state. (Hall.)

VERMONT.

RUTLAND.

Specular Iron, a little east from the village, in thin plates resting on quartz. (Hall.)

Pipe Clay, of fine quality. (Morse.)

SALISBURY.

Hornstone. (Hall.)

SHAFTSBURY.

Marble, white, extensively quarried. (C.)

SHARON.

Granular Argillaceous Oxide of Iron. (Sil. 6.245.)

SHOREHAM.

Calcareous Spar, very beautiful, transparent, rhomboidal crystals have been obtained.

Compact Shell Limestone, with organic remains.

Fetid Limestone.

Hornstone. (Hall.)

SHREWSBURY.

Magnetic Sulphuret of Iron. Sulphate of iron, or copperas is manufactured from it (C.) 2 m. S. E. from Finney's tavern; here it constitutes the body of a large hill, a spur of the Green mountain: amorphous.

Smoky Quartz, crystallized.

Fetid Quartz, on the shunpike, in large masses of

Milky Quartz. (Hall.)

SPRINGFIELD.

Garnet. (Hall.)

STOCKBRIDGE.

Steatite. (C.)

Milky Quartz, in beds of rivers, and scattered on the surface of the earth, usually in rolled masses.

Greasy Quartz.

Epidote, with

Hornblende.

Chlorite, becoming a kind of coarse steatite. Hall.)

VERMONT.

31

ST. JOHNSBURY.

Limpid Quartz, in crystals extremely elegant. (*Hall.*)

STRAFFORD.

Sulphuret of Iron, very abundant, from which sulphate of iron is extensively manufactured, (C.) about 12 m. from Dartmouth College, and about 5 m. from Thetford, near the summit of a hill. The ore consists of an aggregate of quartz, and undecomposed pyrites, in small grains. In its granular aggregation resembling the quartz and feldspar in fine grained granite. The pyrites constitutes the greater proportion, containing a small quantity of copper. Many specimens contain abundance of needle shaped crystals of *Schorl*. (*Sil.* 3.326.)

SUDBURY.

Chlorite. (*Hall.*)

SOMERSET.

Magnetic Oxide of Iron, in considerable quantities, with pyrites, (C.) in beds in mica slate, from 1 inch to 2 feet thick. (*Hall.*)

Sulphuret of Iron, in abundance, and

Bog Ore. (*Sil.* 3.76.)

Dolomite, with iron ore. (*Sil.* 8.35.)

SUNDERLAND.

Sulphuret of Lead. (C.)

SWANTON.

Black Marble, quarried largely. Also dove and grey; on the Michiscoi, it is often very beautifully shaded and veined. This quarry furnishes annually from 4,000 to 5,000 feet, estimated at one dollar a foot.

Siliceous Carbonate of Lime, red, stratified, similar to that of Middlebury, in the S. part of the town. (*Hall.*)

THETFORD.

Fluate of Lime.

Novaculite.

Sulphuret of Lead, (C.) in masses scattered promiscuously on the surface of the earth.

Radiated Quartz, in small groups of acicular, radiating crystals which are exceedingly beautiful. (Hall.)

TINMOUTH.

Sulphuret of Iron, in granular limestone, in cubes; abundant and handsome. (Hall.)

TOWNSEND.

Mica, a little way N. W. from the meetinghouse, lamellar in granite, sometimes in regular crystals.

Feldspar, white and slightly translucent, in regular hexagonal prisms, $\frac{1}{2}$ a m. N. from the village, in coarse granite. (Hall.)

Kaolin. (H. M. Wells.)

VERGENNES.

Calcareous Spar, a few rods below the falls, crystallized, white, but not transparent.

Marble, known by the name of the Kirby marble, near the line which divides New Haven from Middlebury, white, remarkably translucent, and not inferior in any respect to the Carrara marble.

Sulphuret of Iron. (Hall.)

VERNON.

Granular Quartz, appearing like loaf sugar, (C.) forming a bed in

Clay Slate. (Hall.)

Staurotide, in mica slate, in vast quantities. (Sil. 6.219.)

WAITSFIELD.

Limpid Quartz, in large crystals, but not perfectly transparent. (Hall.)

WARDSBOROUGH.

Zoisite, in quartz, very large crystals; abundant.

Tremolite, in fine crystals, penetrating quartz, sometimes 6 inches long. (C.)

Chlorite, in quartz, in distinct dark green folia, which often form cylindrical masses. (C.)

VERMONT.

33

Smoky Quartz, amorphous.

Specular Iron, in thin laminæ on chlorite. (Hall.)

Schorl.

WEATHERSFIELD.

Sulphuret of Iron. (Hall.)

WEST HAVEN.

Hornstone. (Hall.)

WESTMINSTER.

Staurotide. (Sil. 6.219.)

Amethyst, fine crystals.

Steatite. (Hall.)

WEYBRIDGE.

Compact Limestone near the Quaker village.

Stalactitic, in caves.

Amianthus, near the paper mill, between layers of limestone ;
it is the variety called earthy asbestos. (Hall.)

WHITING.

Sulphuret of Iron. (Hall.)

WHITINGHAM.

Calcareous Spar, crystallized.

Graphite, foliated, in limestone.

Red Oxide of Titanium, in long prisms, imbedded in quartz.
(H. M. Wells.)

WILMINGTON.

Sulphur, pulverulent. (Sil. 8.54.)

WINDHAM.

Actynolite, beautiful, and very abundant, leek green, translucent, and almost transparent, (C.) in a whitish, uncrystallized talc, in which are veins of very beautiful laminated talc.

Steatite. (C.) On the farm of N. Aiken, Esq. there are thousands of tons of compact steatite of the best quality.

Laminated Talc, 2 m. from the S. meetinghouse, in and near a road running from that meetinghouse to the S. part of

Grafton : this is one of the finest localities of actynolite and talc in the United States.

Tabular Quartz, near the S. meetinghouse, in thin layers.

Garnet.

Asbestos, ligniform, and earthy.

Amianthus.

Hornblende.

Common Serpentine, in the vicinity of the actynolite.

Chlorite, becoming a coarse kind of steatite. (*Hall*.)

MASSACHUSETTS.

ABINGTON.

Limpid Quartz, fine crystals in alluvial soil. (C.)

Milky Quartz, the cavities frequently lined with crystals.

Amethyst, one fine crystal has been discovered. (Sil. 6.247.)

ADAMS.

Granular Limestone. At the Cave or Falls, it is intimately connected with large blocks of granite, and rests on mica slate.

Marble, coarse grained, white, susceptible of a good polish.

Dolomite, columnar. (C.)

Oxide of Manganese. (Sil. 5.269.)

Carbonate of Soda. (Sil. 8.32.)

Laminated Calcareous Spar, in granular limestone. (Sil. 8.33.)

Sulphate of Iron, on the rocks near the S. village. (Sil. 8.56.)

Sulphuret of Lead, on the E. side of Saddle mountain. (Sil. 8.57.)

ALFORD.

Carbonate of Lime, very fetid, and abundant. (Sil. 8.35.)

AMHERST.

Mica, some crystals of it have been found. (Sil. 1.113.)

Chalcedony, in rolled masses in a brook, of a fine blue color.

Hornstone, (ecailléux, of Brochant,) well characterized, and very beautiful. (C. U. Shepard.)

ANDOVER.

Mica, radiated or plumose. (Hall.)

ASHFIELD.

Mica, straw or rose color in excess in granite. (Sil. 6.220.)

ATHOL.

Epidote. (Sil. 1.14.) in prismatic, bladed crystals, associated with black

Radiated Schorl, and
Hornblende. (Sil. 6.223.)
Magnetic Oxide of Iron, (Sil. 1.115.) in octahedral crystals in
 mica slate and gneiss. (Sil. 6.232.)
Limpid Quartz. (C. C. Baldwin.)

ATTLEBOROUGH.

Compact Limestone, in beds, and associated with
Red Clay Slate, near the "City," and $\frac{1}{2}$ a m. S. E. from the
 old meetinghouse.
Calcareous Spar, in amygdaloid, near the limestone.
Analcime, in amygdaloid, with calc spar, &c.

BECKET.

Fibrolite ? in small quantities. (Sil. 8.40.)
Vert Antique ? in a bed, in gneiss on the river in Becket.
 (Sil. 8.58.)

BEDFORD.

Granular Limestone.
Garnet, in large and sometimes perfect trapezoidal crystals in
 granite. (C.)

BELCHERTOWN.

Actynolite. (C.)
Epidote, in greenstone. (E.)
Amethyst. (C. U. Shepard.)

BELLINGHAM.

Specular Oxide of Iron, in granite, near Curtis' tavern, 8 m.
 from Mendon. (Eddy.)

BERNARDSTON.

Specular Oxide of Iron, in veins. (Sil. 1.115.)
Micaceous Oxide of Iron, and
Magnetic Oxide of Iron, abundant in beds in talco-argillite.
 (Sil. 6.208.)

BEVERLY.

Fluate of Lime, purple ; small portions are disseminated in the
 fissures of a very beautiful

Green Feldspar. (Sil. 7.252.) Green Feldspar, some of which is crystallized, is found in narrow veins in sienite, with crystals of
Zircon, in the common, or parade-ground. (J. W. W. 1.599.)

BILLERICA.

Phosphate of Lime, in coarse granite, the feldspar of which is of gigantic size and of a beautiful flesh color. (J. W. W.)

BLANFORD.

Cyanite, is abundant in this vicinity. (Sil. 8.40.)

BOLTON.

Primitive Limestone, in gneiss, with

Tremolite, in fibrous masses.

Actynolite, sometimes in rhombic prisms 3 inches long in primitive limestone. (C.)

Scapolite, fine specimens, massive, in distinct concretions, and crystallized in veins of white quartz, intersecting the limestone. It occurs red, white, and yellow, very abundant.

Augite, green, in granular limestone, abundant.

Silico-Calcareous Oxide of Titanium, disseminated in the granular limestone, in irregular grains, and beautifully crystallized. (Sil. 7.52 & 53.)

Calc. Spar, not abundant.

Epidote, not abundant. (W. Lincoln.)

Nuttallite, is found imbedded in carbonate of lime; its form a right square prism, with cleavages parallel to its lateral planes; the edges of the prisms replaced by single planes, but the terminal planes are imperfect; from its exhibiting a play of light resembling the fettstein from Norway, it had been named Elaeolite. Some fragments are nearly transparent and colorless. It is softer and much more glassy in its fracture than scapolite. (Annals of Philos. Lond. May, 1824.)

Phosphate of Lime? massive, and imperfectly crystallized, in quartz. The writer has one imperfect crystal $\frac{3}{4}$ of an inch in diameter, in the centre of which is a small, colorless, transparent crystal, apparently quartz.

Fetid Limestone.

Brucite, in limestone, yellow, and greyish brown, very abundant. A yellowish green substance, resembling serpentine,

but supposed to be a variety of brucite, is found disseminated in the same rock.

Gadolinite, disseminated in limestone. (*J. W. W.*).

Garnet, rare.

Amianthus, very white, rare.

Sahlite.

Hornblende, fibrous, and radiated.

Talc, in veins in limestone.

BOSTON.

Clay and gravel constitute the peninsula of Boston. (*J. W. W.*)

BRIDGEWATER.

Chlorite, in yellowish green masses in quartz. (*C.*)

Blue Quartz, in amorphous masses. (*Sil.* 6.247.)

BRIGHTON.

Calcareous Spar, in amygdaloid, both massive and in crystals.
Quartz, of various colors, forming beds in amygdaloid; also in large, well formed crystals, opaque, and colored green by *Green Earth*.

Prase. It appears to be colored by epidote.

Epidote, in veins traversing sienite and greenstone, usually compact, but sometimes crystallized in cavities.

Asbestos, the common variety, in amygdaloid and rolled masses of greenstone.

Chlorite, massive in quartz.

Pyritous Copper, in quartz accompanying amygdaloid.

Muriate of Copper, (?) investing quartz and amygdaloid.

Specular Oxide of Iron, in thin laminæ in quartz.

Micaceous Oxide of Iron, (*C.*) in small veins in greywacke and amygdaloid.

Compact Limestone, massive and disseminated in amygdaloid.

Schorl, disseminated in rolled masses of granite.

Wacke, (?) in rounded fragments, and forming the basis of amygdaloid.

Hornblende, in rounded masses.

Clay Slate,

Novaculite, and greenstone.

Sulphuret of Iron, disseminated in clay slate.

Nodular Argillaceous Oxide of Iron, in alluvial soil.

Sulphuret of Lead, disseminated in rolled masses of quartz ; very rare. (*Dana.*)

Sulphate of Lime, in amygdaloid. (*J. W. W.*)

BRIMFIELD.

Adularia, in gneiss and granite ; (*C.*) very beautiful, in a wall near the residence of the late Gen William Eaton.

Zircon, in connexion with the adularia.

Sulphuret of Molybdena, in granite, in the western part of the town. (*É.*)

Graphite, or plumbago, 6 m. S. E. from Brimfield, abundant. (*Sil.* 2.238.)

Pyrope, in granite, the feldspar of which is light green—in rounded irregular masses of a delicate poppy red ; found in digging a well. (*Sil.* 6.222.)

BROOKFIELD.

Prehnite. (*C.*)

Magnetic Sulphuret of Iron, abundant in granite. (*Sil.* 6.232.)

Bog Iron Ore, abundant. (*W. Lincoln.*)

Garnets, in mica slate. (*J. W. W.*)

BROOKLINE.

Chlorite, earthy, in quartz. (*C.*)

Novaculite, in rolled masses. (*Dana.*)

CAMBRIDGE.

Pyritous Copper, in rolled masses of quartz. (*C.*)

Limpid Quartz, in angular pieces, in alluvial soil at Simon's hill, and at Lechmere Point, on the banks of Charles river

Petronilex, in rolled masses and fragments in alluvial soil.

Schorl, disseminated in rolled masses of granite.

Basalt, (?) in rounded masses.

Garnet, in rounded masses of granite.

Hornblende, in rounded masses.

Novaculite, in rolled masses.

Potters' Clay, in vast quantities.

Peat, compact and fibrous ; large quantities of both varieties.

Sulphuret of Iron, and

Ochrey Brown Oxide of Iron.

Nodular Argillaceous Oxide of Iron, in alluvial soil.

Carbonate of Iron, massive in rounded fragments of quartz, accompanied with pyrites and yellow ochre. (*Dana.*)

CARLISLE.

Mica, in large laminæ.

Feldspar, a beautiful cream colored variety. (*Dana.*)

CARVER.

Bog Iron Ore, abundant at the bottom of ponds. (C.)

CHARLEMONT.

Sulphuret of Iron. (Sil. 1.115.)

Scapolite, in quartz.

Hornblende, fibrous, the variety called fasciculite ; very fine. (*H. M. Wells.*)

CHARLESTOWN.

Calcareous Spar, disseminated, and in small veins in clay slate.

Brown Spar, in veins and fissures in clay slate.

Feldspar, in sienite in masses composed of tables or 4 sided prisms, which have generally a white nucleus surrounded by red or green laminæ.

Prehnite, in greenstone. (C.) This prehnite occurs in *sienite*, with crystallized feldspar. (*J. W. W.*)

Chlorite, in thin layers in greenstone and clay slate.

Clay Slate, near Powder House hill, extensively quarried.

Novaculite, in beds in clay slate, into which it passes, or in rolled masses.

Micaceous Oxide of Iron, in greenstone. (C.)

Compact Limestone, in veins in argillite at the slate quarries.

Concreted Carbonate of Lime, incrusting greenstone and argillite.

Pinite, disseminated in basalt ; rare.

Basalt, (?) in beds in argillite and in rounded masses.

Garnet, in rounded masses of granite.

Basaltic Hornblende, imbedded in rolled masses of basalt.

Common Hornblende, in do.

Clay Slate, in large beds in greenstone, and in rolled masses.

Potter's Clay ; abundant.

Sulphuret of Iron, massive in clay ; rare.

Ochrey Brown Oxide of Iron, massive, and disseminated in

quartz which traverses greenstone, and in decomposing greenstone.

Nodular Argillaceous Oxide of Iron, in alluvion.

Sulphate of Iron, efflorescent on argillite, and massive. (*Dana.*)

CHARLTON.

Radiated Tourmaline. (*Sil.* 2.240.)

CHELMSFORD.

Granular Limestone, a bed in mica slate. It phosphoresces by friction or from heat.

Phosphate of Lime, (apatite) in small green prisms in limestone.

Scapolite, (Chelmsfordite of Dana,) in limestone associated with quartz, mica, and phosphate of lime.

Tremolite, in fibrous masses in limestone.

Actynolite, amorphous or in imperfect 6 sided prisms in limestone. (*C.*)

Mica, disseminated in limestone.

Steatite, in limestone. (*Dana.*)

CHELSEA.

Clay slate. (*Dana.*)

CHELSEA BEECH.

Petrosiles pebbles, abundant. (*Dana.*)

CHESTER.

Calcareous Spar, beautifully crystallized, (*Sil.* 6.246.) about 1 m. E. of the meetinghouse with chabasie and stilbite in fissures and veins, in the mica slate. (*Sil.* 7.255.)

Cyanite, very dark colored, in mica slate.

Agate. (*Sil.* 6.248.) One specimen in the sand, near Chester village, weighed upwards of 180 lb. consisting of yellow jasper and chalcedony. A much larger mass partly agatized was near the meetinghouse. (*Sil.* 7.256.)

Chabasie, in cuboidal crystals, (*Sil.* 6.248.) with stilbite and carbonate of lime in mica slate; fine crystals. (*Sil.* 8.45.)

Graphitz. (*Sil.* 6.248.)

Silico-Calcareous Oxide of Titanium, associated with

Augite, and

Actynolite ; likewise in sienite.

Phosphate of Lime, in an aggregate of

Grey Epidote,

Zoisite, hornblende, and quartz. (*Sil.* 7.254.)

Augite, abundant, in amorphous masses.

Sahlite, and

Coccolite, in beds, in mica slate, well characterized.

Magnetic Oxide of Iron, abundant in octaedral crystals, and amorphous, disseminated in

Serpentine, mica slate, &c.

Garnets, and

Staurolite, very abundant. (*Sil.* 7.255.)

Beryl, in an aggregate of carbonate of lime, chlorite, and feldspar. (*Sil.* 7.233.)

Granular Limestone, highly crystalline between the strata of mica slate. (*Sil.* 8.33.)

Rose Red Quartz, in granite. (*Sil.* 8.37.)

Laminated Quartz, a new variety. (*Sil.* 8.38.)

Pycnite, in detached pieces of gneiss, resembling beryl.

Mica, prismatic and lamellar, abundant and beautiful, in coarse granite. (*Sil.* 8.41.)

Common Schorl, in the veins of granite, found in mica slate.

Green Tourmaline, and

Indicolite, are found in a vein of granite in mica slate, with

Silicious Feldspar, or Cleavelandite.

Common Feldspar, abundant in granite, often crystallized.

Green Feldspar, and rose red quartz, 2 m. S. of the meeting-house. (*Sil.* 8.42.)

Albite. The siliceous feldspar passes into fine and coarse granular.

Glassy Feldspar, in quadrangular prisms in granite, abundant.

Compact Feldspar, found sometimes with the preceding. (*Sil.* 8.43.)

Scapolite, with

Hornblende, augite, &c.

Melanite, in hornblende.

Epidote, on hornblende rocks ; sometimes also in grains.

Idocrase, associated with actynolite, epidote,

Chlorite, &c. (*Sil.* 8.44.) deep green, foliated. (*Sil.* 8.52.)

Silbite, a mile E. of the meetinghouse, and in other places in fissures of the mica slate and hornblende rocks, associated with

Zeolite. (Sil. 8.45.)

Nacrite? on mica slate. (Sil. 8.46.)

Diallage? in diallage rock? It resembles metalloidal diallage. (Sil. 8.49.)

Brown Talc forms veins in mica slate; same as that mentioned in Sil. 7.55. (Sil. 8.50.)

Sulphur, in mica slate. (Sil. 8.54.)

Ferruginous Oxide of Titanium, in granite, rare, somewhat resembling schorl. (Sil. 8.58.)

Spodumene, in small quantity in granite, yellowish or pale green. (Sil. 8.243.)

Fetid Quartz, in granite. (Sil. 8.250.)

CHESTERFIELD.

Cyanite, very fine, associated with

Garnet and quartz.

Green Tourmaline, in a bed of granite, chiefly in a vein of quartz and

Siliceous Feldspar, traversing the granite, associated with

Rubellite. This granite contains

Blue Tourmaline, and

Emerald.

Beryl, in granite; the crystals vary from a small size to that of a foot in diameter; their color is usually a light green, and they much resemble the French beryl at Limoge. (C.)

Rose Quartz, beautiful, and in considerable quantities in a ledge, at the E. part of the town.

Irisd Quartz, in large quantities, red, yellow, or orange, and very delicate. (Sil. 6.247.)

Tremolite, well characterized. (Sil. 6.248.)

Staurolite, abundant (Sil. 6.219.) in mica slate, or is it

Macie? (Sil. 6.227.)

Sulphuret of Molybdena. (Sil. 7.58.)

Green Feldspar, in crystalline masses, very fine, in granite near the cyanite locality. (Sil. 7.251.)

Fetid Quartz.

Prismatic Mica, abundant, and beautiful.

Scapolite, associated with quartz. (Sil. 7.252.)

MASSACHUSETTE.

CHILMARK.

Ferruginous Pebbles, brown or reddish, in beds, cemented by the oxide of iron.

Mica, silver color, intimately mixed with, and composing nearly half of some of the clay beds. This clay appears to be

Kaolin.

Variegated Clay, in beds.

Mineral Charcoal, in small masses, in some of the clay beds.

Lignite, well characterized, in the clay, beneath the ferruginous pebble beds, 5 or 6 m. from Gay Head. (*Sil.* 7.245.)

Argillaceous Ore of Iron, incrusting the cliffs a little eastward from Monimshi bite, on the N. side of the island, assuming a mamillary or botryoidal appearance, to which I am inclined to apply the very appropriate name of *Iron Sinter*.

Garnet, in granite near this locality. (*T. A. Greene.*)

COHASSET.

Hornstone, in a small vein in sienite, rare. (*Dana.*)

COLRAIN.

Scapolite ? (*Sil.* 6.225.)

Red Oxide of Titanium, in quartz, mica slate, and tremolite. (*Sil.* 6.236.)

CONCORD.

Sulphate of Iron, occurs with a vein of sulphuret of iron in greenstone.

Sulphuret of Iron, disseminated in

Clay slate.

Novaculite. (*Dana.*)

CONWAY.

Cyanite, in mica slate. (*C.*)

Melanite, in mica slate, at the cyanite locality, a few miles E. of the village, in great abundance. (*E.* 145.)

Rock Crystal, abundant; good specimens of crystals crossing each other in all directions, on feldspar. (*Sil.* 1.112.)

Garnet, nearly black in hornblende and mica slate. Good specimens of the *melenite*.

Sulphur, pulverulent in small quantities, in mica slate. (*Sil.* 1.114.)

Sulphate of Iron, in small quantities, efflorescing in mica slate.
(*Sil.* 1.115.)

Hornstone ; rare. (*Sil.* 1.436.)

Green Fluete of Lime, in a vein of mica slate, in small quantities.

Tabular Quartz, and

Radiated Quartz, abundant, and most beautiful graphic granite. (*Sil.* 5.405.)

Red Oxide of Titanium, crystallized on *Crystallized Quartz* ; rare.

Alum, on mica slate efflorescing.

Lampid Quariz, in veins, and geodes, from 1 to 10 inches in diameter in mica slate. The crystals are of every size, are very transparent, and occur in vast quantities. (*Sil.* 6.213.)

Fetid Quartz, milk white, in veins, in mica slate, and granite and loose on the surface, and crystallized. (*Sil.* 6.215.)

Jasper, red, black, and yellow, in rolled fragments on the banks of Deerfield river. (*Sil.* 6.218.)

Mica, straw yellow, sometimes rose red, in excess in granitic veins. (*Sil.* 6.220.)

Scapolite ? (*Sil.* 6.225.)

Fasciculite, in mica slate and talco-micaceous slate. (*Sil.* 6.226.)

Chlorite, foliated. (*Sil.* 6.228.)

Kaolin, in small quantities. (*Sil.* 6.229.)

Spodumene, from the vicinity of Conway. (*Sil.* 8.121.)

CUMMINGTON.

Milky Quartz, often in large masses.

Jasper, black, in rolled fragments on the banks of Westfield river.

Staurolite, in mica slate.

Garnet.

Actynolite.

Talc, sometimes laminated, and greenish white in

Steatite, which is abundant, and quarried.

Chromate of Iron, compact and amorphous. (C.)

Blue Quartz, in amorphous masses.

Arenaceous Quartz, often in large masses.

Fetid Quartz. (*Sil.* 6.247.)

Green Mica.

Tremolite, associated with quartz and beautiful garnets. (Cummingtonite of Prof. Dewey.)

Serpentine, in loose masses.

Chromate of Iron, one small mass has been found at the soap-stone quarry.

Graphite. (Sil. 6.248.)

Red Oxide of Titanium. (Sil. 7.58.)

Chalcedony.

Red Jasper, on the banks of Westfield river.

Black Tourmaline, in milky quartz, uncommonly beautiful. (Sil. 7.252.)

Sulphur, in the Cumingtonite rock.

Graphite. (Sil. 8.54.)

Oxide of Manganese, compact and earthy. (Sil. 8.57.)

Cumingtonite, or grey epidote, with quartz and garnet, forming a large mass in which is found minute crystals of

Magnetic Oxide of Iron. (Sil. 8.59.)

Laminated Quartz, well characterized. It occurs both of the milky and smoky varieties. The rock that contains the Cumingtonite is known by the common people by the name of 'Copperas rock,' pieces of it being occasionally used as a substitute for sulphate of iron in dying. It lies by the road side in the E. part of the town.

Fetid Limestone, in loose masses, dark colored, scintillating, and very fetid.

Carbonate of Iron, beautifully crystallized in rhombs, which are nearly white, have a shining surface, and are frequently curved or undulated.

Siliceous Oxide of Manganese, in large quantities; it is of a light, but very lively rose red color, and takes a fine polish, associated with the grey oxide, and around both, the black oxide commonly forms an envelope.

Cyanite, in small quantities, in large, well defined crystals, of a lively and delicate color, in mica slate, associated with white quartz, garnets, and

Black Mica.

Red Oxide of Titanium, occurs at the same place, and sometimes in the same rock, with the cyanite.

Hyalite, or stalactical quartz. (Jacob Porter.)

DALTON.

Yellow Tourmaline, near the Housatonic, in groups of straw yellow crystals, in

Granular Limestone.

Compact Brown Oxide of Iron, incrusting rocks. (C.)
Yellow Ferruginous Quartz, crystallized and amorphous.
 (Jacob Porter.)

DANVERS.

Calcareous Spar; the laminated variety occurs in greenstone, and in
Clay Slate. (C.)
Common Hornblende, in rounded masses.
Potter's Clay, extensively manufactured.
Peat, compact and fibrous, abundant. (Dana.)

DEDHAM.

Epidote, in veins, traversing sienite and greenstone, usually compact, but sometimes crystallized in cavities.
Asbestos; the common variety is found massive in quartz, which traverses rolled masses of greenstone. (C.)
Sulphuret of Iron, disseminated in
Clay Slate.
Novaculite. (Dana.)

DEERFIELD.

Tabular Quartz, in greenstone.
Quartz geodes, of which the interior is lined with chabasie, prehnite, &c.
Amethyst, possessing a delicate color in greenstone.
Carnelian, in greenstone, deep red, or yellowish, generally united with common
Chalcedony, which occurs in secondary greenstone, cylindrical, reniform, and stalactical.
Sardonyx, passing into carnelian, with which it is associated.
Jasper, red, yellow, or imperfectly striped, in rolled masses, on the banks of Deerfield river.
Agate, in greenstone, 1 m. E. from the Academy. (C.) A new locality of them of very fine specimens, (Sil. 5.407.) including the fortification agate, striped or ribbon agate, eyed agates, and chalcedonyx; one weighed 23 lb. (Sil. 6 216.)
Cacholong, in greenstone, passing into common chalcedony, about which it usually forms an envelope.
Cyanite, in mica slate.
Basanite, on the banks of Deerfield river.

Stilbite, in greenstone, white crystals, usually associated with chabasie.

Zeolite, radiated masses in cavities of greenstone.

Analcime, in greenstone, with chabasie, quartz, and amethyst.

Chabasie, in cavities or veins in greenstone, also in geodes, on balls of zeolite, or on chalcedony, quartz, &c.

Prehnite, incrusting columnar greenstone, or traversing it in veins.

Augite, in black, imperfect crystals in an aggregate of greenstone, quartz, and carbonate of lime.

Chlorite, in amygdaloid.

Green Earth, in amygdaloid.

Oxide of Manganese. (C.)

Blue Quartz, in rolled masses on Deerfield river.

Granular Quartz. (Sil. 1.112.)

Greasy Quartz.

Lamellar Quartz.

Pseudomorphous Quartz, in greenstone.

Mica, very abundant on the E. side of Connecticut river.

Petrosilex, on the banks of Deerfield river.

Hornblende. (Sil. 1.113.)

Epidote. (Sil. 1.114.)

Laminated Calcareous Spar, with the prehnite &c. about 2 m. from Deerfield Academy, easterly.

Sulphuret of Iron. (Sil. 1.115.)

Rose Quartz, a loose mass in alluvial soil. (Sil. 1.116.)

Hornstone, in nodules; abundant.

Siliceous Slate, in rolled masses, on the banks of Deerfield river. (Sil. 1.436.)

Fluate of Lime, purple, crystallized. (Sil. 5.407.)

Feldspar, deep flesh color, with quartz, forming elegant specimens of graphic granite. (Sil. 6.16.)

Garnet, abundant; (Sil. 1.114.) in hornblende and mica slate, nearly black. (Sil. 6.222.)

Common Serpentine, in small rolled masses. (Sil. 6.227.)

Pyritous Copper, in greenstone. (Sil. 6.231.)

DORCHESTER.

Compact Feldspar, abundant, forming beds, or even hills.

Novaculite, in rolled masses, and in beds in

Clay Slate, into which it passes. (C.)

Nodular Argillaceous Oxide of Iron, in alluvial soil at Dorchester beach ; rare. (*Dana.*)

Black Oxide of Manganese, investing various rocks. (*J. W. W.*)

EASTON.

Sulphuret of Copper, and

Sulphuret of Lead, on Jonathan Leonard's farm.

FLORIDA.

Prase, beautiful, and containing

Sulphuret of Iron, a little E. of the summit of Hoosack mountain. (*Sil.* 1.344.)

Serpentine, some of it is very hard, and contains crystals of sulphuret of iron. With the serpentine is often found

Magnetic Oxide of Iron,

Hyalite,

Chalcedony,

Talc,

Asbestos, &c. (*Sil.* 8.49, & 50.)

GAY HEAD.

Sulphate of Lime, in rhomboidal tables, more frequently in acicular prisms, imbedded in a blackish earth which appears to be decomposed on decayed lignite.

Potters' Clay.

Pipe clay fine and white.

Variegated Clay.

Lignite, three varieties; *Brittle Lignite*, *Bituminous Wood*, and *Earthy Lignite*, very plentiful.

Radiated Sulphuret of Iron, sometimes in a cylindrical form investing the lignite, more frequently in spheroidal masses imbedded in the earthy, or decomposed lignite, or in clay.

Red and Yellow Ochres.

Argillaceous Oxide of Iron, the columnar and nodular varieties; the latter very common.

Amorphous Native Arsenic is said to occur here. All these may be found in the cliff, which presents a naked front of 200 feet in height, and whose variegated colors have given name to *this spot*; within forty rods of the light house. (*C.*) & (*T. A. Green.*)

Amber has been found floating on the ocean, near, undoubtedly derived from the lignite of this formation. (*Sil.* 7.35.)

Iron Sinter, as described under Chilmark, found sparingly.
(*T. A. Greene.*)

GILL.

Magnetic Iron Sand, (C.) a little below Turner's falls on the S. E. bank of Connecticut river. (*Sil.* 6.232.)

Bituminous Shale has been found at the falls. (*Sil.* 1.111.)

Chalcedony, in greenstone. (*Sil.* 6.216.)

Chlorite, in greenstone amygdaloid. (*Sil.* 6.228.)

Claystone, in rolled pieces in the bed of Connecticut river, below where it cuts through the coal formation at Gill. (*Sil.* 6.229.)

Variagated Pyritous Copper, sparingly disseminated in calcareous spar, in sand stone of the coal formation; in the island, in the middle of Connecticut river, at the falls in Gill. (*Sil.* 6.231.)

Arsenical Iron ? or arsenical sulphuret of iron; one detached mass. (*Sil.* 6.232.)

Nodular Argillaceous Oxide of Iron, near the falls, in a dark, hard slate, of the coal formation. (*Sil.* 6.233.)

GOSHEN.

Mica, in detached masses of granite associated with

Blue Tourmaline, and

Green Tourmaline. The mica is sometimes crystallized in rhombic tables, generally rose red, or violet, resembling lepidolite, 6 m. N. E. from Chesterfield. The same granite contains

Black Tourmalines, and

Red Tourmalines, and also

Red Colored Emeralds, and

Cleavelandite, and

Beryl, (C.) some of which are rose colored. (*Sil.* 6.222.)

Limpid Quartz, with snow white

Feldspar, forming superb specimens of graphic granite in the N. E. corner of the town. (*Sil.* 6.16.) Pseudomorphous granite is connected with it. (*Sil.* 7.22.)

Tremolite.

Scapolite ? (*Sil.* 6.225.) *Scapolite*, occurs beautifully crystallized, and abundant, generally associated with white quartz, S. W. part of the town. (*J. Porter.*)

Augite, white, abundant and fine, in granite, 1 m. N. of the

meetinghouse, on the road to Ashfield. (*Sil.* 6.225.) About 2 m. N. of Goshen meetinghouse, a few rods beyond a tavern on the W. side of the road, is a pasture almost covered by boulders of granite. These boulders are full of augite; some crystals 12 to 18 inches long, and 3 or 4 wide, but imperfect; every cabinet in the world might be supplied from them. Fine crystals of *beryl* are found in the same rock. (*Sil.* 7.30.) Augite occurs at the celebrated locality of the emerald, tourmalines, and silicious feldspar.

Fibrous Hornblende, in mica slate. (*Sil.* 6.226.)

Schorl, on granite; some of them are covered by white quartz, an inch or more, generally small but handsome.

Sulphuret of Molybdena, in granite. (*J. Porter.*)

The Augite, of this town has recently been ascertained by analysis to be

Spodumene.

Fetid Quartz, in all the stone walls, very abundant.

Red Oxide of Titanium, is likewise found in stone walls in masses of quartz and mica slate. (*C. U. Shepard.*)

GRANVILLE.

Cyanite, in mica slate. (*C.*)

GREAT BARRINGTON.

Dolomite occurs at the foot of a hill of mica slate, containing *Tremolite*. Sometimes the crystals are bladed and flattened, and sometimes in masses of parallel, or diverging fibres. (*C.*) The locality at which the bladed crystals are abundant is in Muddy brook, 3 m. from the plain in Stockbridge, and on the left of the road, leading to New Marlborough. (*Sil.* 8.46.)

Oxide of Manganese, near, in gneiss. (*C.*)

Augite, in magnesian limestone at Muddy brook, some of the crystals resembling the tremolite. (*Sil.* 8.47.)

Chlorite Slate, abundant. (*Sil.* 8.52.)

GREENFIELD.

Sulphate of Barytes, forming the walls of a vein, which traverses toadstone, and contains

Green Carbonate of Copper.

Compact Malachite, 100 rods below the falls, with

Pyritous Copper, in a vein traversing toadstone, and containing sulphate of barytes. (C.)

Bog Iron Ore, abundant. (Sil. 1.436.) A vein of green carbonate of copper principally, and pyritous copper, 5 or 6 feet in diameter, occurs on the W. bank of Connecticut river, 100 rods below the mouth of Fall river, and about the same distance in a direct line from Turner's falls, at the junction of the greenstone and

Red Slate, of the coal formation. The matrix of this vein is toadstone, which is traversed in the direction of the vein, by several veins of sulphate of barytes. About a mile below the vein just described, (down the stream,) is another, similar, and needs no description. In other places between these veins, in the red slate are observed veins of the green carbonate of copper, not more than $\frac{1}{4}$ of an inch thick, while the walls are glazed, so as to resemble polished steel; constituting handsome specimens of the

Slickenside, of the Germans. (Sil. 6.207.)

Limpid Quartz, crystallized in the copper mines. (Sil. 6.213.)

Chalcedony, in greenstone. (Sil. 6.216.)

Chlorite, in greenstone amygdaloid. (Sil. 6.228.)

Prehnite, in greenstone. (Hull.)

GROTON.

Argillaceous Oxide of Iron, (bog ore,) occurs earthy, or with a resinous fracture, and yields hot short iron. (C.)

HADLEY.

Chalcedony, in greenstone. (Sil. 6.216.)

HARDWICK.

Bog Ore, (argillaceous oxide of iron,) abundant. (W. Lincoln.)

HATFIELD.

Sulphate of Barytes, occurs both in tabular crystals and foliated masses, in veins, traversing granite or gneiss. (C.)

Sulphuret of Lead. (Sil. 1.115.)

HAWLEY.

Actynolite, in good crystals in a hornblende rock.

Specular Oxide of Iron.

Micaceous Oxide of Iron. (C.) This exists in the north western part of the town, in beds in talcose slate, with

Magnetic Oxide of Iron, which is probably most abundant. The principal bed varies from 6 inches to 3 or 4 feet in thickness. One or two tons of the micaceous oxide lie beside the mine ready for the mineralogist; plates of it may easily be obtained a foot in diameter, possessing a highly glistening aspect, and for richness and beauty, specimens of this ore can hardly be excelled. (Sil. 6.208.)

Black Tourmaline, in

Milky Quartz. (Sil. 5.271.)

Staurotide, in abundance, in mica slate. (Sil. 6.219.)

Faciculite, in mica slate, and talco-micaceous slate. (Sil. 6.226.)

Macie? abundant in mica slate. (Sil. 6.227.)

Sulphuret of Iron, compact, and unmixed with any gangue. (Sil. 6.232.) Also in small but beautiful crystals.

Hornblende, abundance of fine crystals, many specimens, resemble bundles of rods tied together near the middle, thence diverging. (Faciculite?)

Chlorite, abundant, and extremely beautiful. (Sil. 6.248.)

Garnet, very large crystals in

Chlorite Slate. (Sil. 8.44.)

Zoisite. (C. U. Shepard.)

Magnetic Oxide of Iron, in octaedral crystals, in chlorite. (J. Porter.)

HEATH.

Macie? abundant in mica slate. (Sil. 6.227.)

HINGHAM.

Hypersthene, mingled with hornblende. and forming a bed in sienite. (C.)

Petronilex, disseminated in amygdaloid.

Wacke, forming the basis of amygdaloid. (Dana.)

HINSDALE.

Granular Quartz, in large friable masses, snow white, and much resembling loaf sugar. (C.)

Prismatic Mica, on the edges of common mica. (Sil. 5.399.)

Staurotide, in vast quantities in mica slate. (Sil. 6.219.)

Graphite. (Sil. 6.248.) Foliated and granular, sometimes nearly slaty, with augite; abundant. (Sil. 8.54.)

Cacholong, on
Hornstone, and
Chalcedony.

Common Opal. (Sil. 8.39.)

Augite, with graphite. (Sil. 8.48.)

Fibrous Brown Hematite, S. W. part of the town, 4 m. from Pittsfield, cementing a conglomerated quartz rock, lining its fragments, and sometimes nearly $\frac{1}{2}$ an inch thick. (Sil. 8.18.)

Sulphur, in cavities of a mica slate rock, consisting chiefly of quartz. (Sil. 8.53.)

HOLLAND.

Graphite, 2 m. S. from the meetinghouse, between Sturbridge and Holland, in primitive strata. (C.) It is 6 m. S. E. from Brimfield, an extensive bed, between layers of gneiss, in connexion with

Hornblende, perfectly pure, except that it contains

Cobalt Ore, like the hornblende of Monson and Chatham. (Sil. 2.238.)

Lamellar Hornblende, good specimens are found here. (Sil. 6.226.)

HOPKINTON.

Earthy Phosphate of Iron, in large quantities, and is employed as a pigment. (C.) A bed of some thickness was passed through, 1 or 2 feet below the surface, in excavating a hole, 6 feet deep, for the medicinal spring, in the N. W. part of the town, on the S. side of a small meadow, at the base of an alluvial hill.

Ochrey Brown Oxide of Iron, and

Bog Ore; abundant, near the chalybeate springs.

LANCASTER.

Andalucite, reddish brown, in a rolled mass of white quartz, near. (J. W. W. 1.600.)

Macle, abundant, (W. Lincoln.) on what is called "George Hill," and elsewhere.

Earthy Marl, 15 m. N. E. of Worcester, (C. C. Baldwin,) discovered by Mr. Farnum Plummer in digging a well.

Pinite, in clay slate.

Spodumene, fine specimens.

LANESBOROUGH.

Granular Limestone, associated with mica slate, and other primitive rocks.

Flexible Marble.

Marble, white and brownish; 7,000 square feet annually sawed; value, \$10,000.

Chlorite, near, abundant, and often associated with detached masses of quartz. (C.)

Stalactite, and

Calc. Sinter, in the common forms of pendant and protuberant, and projecting masses, occur in very considerable quantity, in a small cavern in one of the quarries of *primitive limestone*. (Sil. 4.41.)

Graphite, (Sil. 7.253.)

Graphic Slate, in small quantity, with

Clay Slate. (Sil. 8.52.)

Siliceous Sand, suitable for the best flint glass. (Sch.)

Yellow Ferruginous Quartz, crystallized and amorphous. (J. Porter.)

LEE.

Dolomite. When broken or rubbed it is strongly fetid. (C.)

Iron Ore. (Sil. 5.21.)

Limpid Quartz, crystallized. (Sil. 8.37.)

Fibrous Tremolite, the masses, whose fibres are sometimes more than two feet long, contain parallelopipeds of

Sulphuret of Iron. (Sil. 8.46.) Sulphuret of iron, exists also, in compact masses. (Sil. 8.55.)

LEICESTER.

Arsenical Sulphuret of Iron, in gneiss. (Sil. 6.232.)

LENOX.

Gibbsite on iron ore. (Sil. 6.247.)

Blue Quartz.

Fetid Quartz. (Sil. 7.252.)

Magnesian Carbonate of Lime. (Sil. 8.34.)

Marl, earthy calcareous, in beds, chiefly carbonate of lime containing decayed small shells. (Sil. 8.36.)

Limpid Quartz, crystallized, and
Greasy Quartz. (Sil. 8.37.)

LEVERETT.

Brown Spar, in a vein of galena.

Sulphuret of Lead, a vein of which with

Pyritous Copper, sometimes in nearly equal proportions in a gangue of

Sulphate of Barytes, and quartz traverses gneiss.

Radiated Quartz, forming a part of the gangue of the galena.

Feldspar, sometimes in large bluish crystals, in granite.

Sulphuret of Zinc, yellowish, in a vein of galena and pyritous copper traversing granite.

Oxide of Manganese, in small masses, much resembling granular oxide of iron, in alluvial soil. (C.)

Tabular Quartz, brown and white. (Hall.) A vein of galena, the only ore, one foot wide, in a gangue of sulphate of barytes, traversing granite, occurs in the S. W. part of the town; about two m. N. of this vein is one of galena, pyritous copper, and blende in a gangue of quartz, united with sulphate of barytes, several feet wide, traversing mica slate and granite. (Sil. 6.204.)

Yellow Quartz, crystallized in small quantities at the lead mine. (Sil. 6.213.)

Staurotide, abundant. (Sil. 6.219.)

Lamellar Hornblende, good specimens of a black color. (Sil. 6.226.)

Peat, in small quantities. (Sil. 6.230.)

LEXINGTON.

Peat, compact and fibrous, abundant. (Dana.)

LEYDEN.

Alum, efflorescing on

Clay Slate.

Jasper, red, yellow, and imperfectly striped, in rolled masses.

Tremolite, very abundant in loose masses on the surface, often very large.

Red Oxide of Titanium, in loose masses of quartz and tremolite. This locality furnishes fine specimens, and sometimes as large as the finger.

Zoisite, of a dirty grey color, sometimes forming the gangue of the red oxide of titanium. (C.)

Epidote.

Serpentine, in small rolled masses. (Sil. 1.114.)

Irised Quartz, in mica slate. (Sil. 1.112, & 6.213.)

Scapolite? abundant. This mineral has generally been called tremolite, and sometimes zoisite. (Sil. 6.225.)

Fibrous Hornblende, the fibres very fine. (Sil. 6.226.)

Chlorite, foliated. (Sil. 6.228.)

Kaolin, in small quantity. (Sil. 6.229.)

Specular Oxide of Iron, sometimes covering quartz, and other minerals, but not abundant. (Sil. 6.233.)

LITTLETON.

Limestone.

Scapolite, both white and purple. (C. U. Shepard.)

LYNN.

Chalcedony, in delicate, milk white rolled masses, on *Nahant beach*.

Epidote, in veins, traversing sienite and greenstone, usually compact, but sometimes crystallized in cavities, and at *Nahant*, finely crystallized.

Fibrous Prehnite, at *Nahant*.

Oxide of Manganese, occurs dendritic, or in mammillary incrustations, on

Compact Feldspar, and sienite. (C.) *Petrosilex* is one of the most frequent pebbles on *Nahant beach*. It forms some hills and mural precipices, and enters into the composition of porphyry. (*Dana*.)

MALDEN.

Compact Feldspar, abundant in beds, and even forming hills. Sometimes its colors are red and white, in parallel veins or stripes, straight or curved. A dark variety is diversified by other shades of red, in veins. It forms the basis of feldspar porphyry, sometimes equal in beauty to the best antique porphyry. (C.) *Hornstone porphyry*. (J. W. W.)

Novaculite, in beds in

Clay Slate, into which it passes, or in rolled masses. (C.)

Micaceous Oxide of Iron.

Specular Iron, in porphyry.

Bog Iron Ore. (J. W. W.)

MANSFIELD.

Bog Iron Ore, very abundant.

MARBLEHEAD.

Sulphuret of Molybdena, fine crystals were found in arranging the collection at Cambridge, labelled, Marblehead. (J. W. W.)

MARSHFIELD.

Blue Quartz, in amorphous masses. (Sil. 6.247.)

Jasper, dark colored, and red, on the beach; many of the specimens beautiful. (Sil. 6.248.)

MARTHA'S VINEYARD. (See GAY HEAD, and CHILMARK.)

MEDFORD.

Muriate of Copper, in rolled masses of granite. (C.)

Petrosilex, in rolled masses, and fragments, in alluvial soil.

Pyritous Copper, in rolled masses of quartz.

Ochrey Brown Oxide of Iron, massive, and disseminated in quartz, which traverses greenstone, and in decomposing greenstone.

Sulphuret of Lead, disseminated in rolled masses of quartz; very rare. (Dana.)

MENDON.

Limpid Quartz, and

Smoky Quartz, massive, transparent, or translucent, much of which is beautifully *irised*. The writer found one opaque crystal $2\frac{1}{2}$ inches in diameter, and $5\frac{1}{2}$ long; ends broken.

Micaceous Oxide of Iron, also

Specular Oxide of Iron, in quartz, some of the plates are $\frac{1}{4}$ of an inch in thickness, about a m. from Blackstone factory, on Peter Gaskill's land, at a shaft which was sunk upwards of 40 years since, with the delusive prospect of finding silver. *Specular Iron*, in handsome plates, in quartz, and *Chlorite*, distinctly characterized, and beautiful, are found at the Blackstone factory.

MIDDLEBOROUGH.

Bog Ore, abundant at the bottom of ponds. (C.)

Feldspar, in a singular talcose rock. (Sil. 7.241.)

MIDDLEFIELD.

Sulphate of Barytes, both the lamellar and granular varieties.
Crystallized Magnesian Carbonate of Lime, laminated, white and yellowish, in soapstone, with

Green Talc.

White Talc, mixed with

Actynolite, which occurs of a fine green; and its masses often contain small tufts of the fibrous variety.

Chalcedony, in

Serpentine, which is connected with soapstone or

Steatite, containing talc and rhomb spar.

Crystallized Steatite, fine crystals, yellowish white, usually grouped on masses of steatite, (C.) 2 m. S. of the meeting-house, between layers of the serpentine. (Sil. 8.51.)

Staurotide, in mica slate.

Magnetic Oxide of Iron, in octaedral crystals in mica slate.

Chromate of Iron, in serpentine. (C.)

Siliceous Slate.

Molybdena, in actynolite and steatite. (Sil. 5.268.)

Stalactical Quartz, crystals are small and have a slight tinge of red on serpentine, at some falls in a brook. The specimens are singularly beautiful.

Opal, covered with small white crystals, slightly tinged with blue or yellow.

Hornstone. The chalcedony of this town is of a milky or reddish color, with blood red spots. (Sil. 6.247.)

Augite, abundant.

Sahlite, and

Coccolite, in beds, in mica slate.

Fibrous Tremolite, in a large mass or rock of rhomb spar.

Hepatic Sulphuret of Iron, imbedded in dark veins, in magnesian carbonate of lime. (Sil. 7.255, & 256.)

Limpid Quartz, in minute pyramids in cavities of serpentine, lined with quartz.

Smoky Quartz, in rolled masses on the banks of streams.

Irisd Quartz, in rolled masses, beautiful.

Greasy Quartz, and

Tabular Quartz. (Sil. 8.37.)

Siliceous Sinter. Hyalite, in serpentine, sometimes nearly stalactical, of a dirty brown color.

Ferruginous Opal, resembles and differs from ferruginous quartz.

Agate, not very abundant. (*Sil.* 8.39.)

Cyanite, and

Garnet, with staurotide, which is very abundant, in mica slate.

Topaz, connected with serpentine, very small crystals or fragments; they lie loosely in an earthy ground of some disintegrated minerals. (*Sil.* 8.40.)

Schorl, in veins of granite found in mica slate. (*Sil.* 8.42.)

Epidote, upon hornblende rocks, sometimes also in grains. (*Sil.* 8.44.)

Granular Tremolite; large masses of aggregated, flattened crystals, with rhomb spar, often pass off into this new and very distinct variety of granular tremolite, which resembles the white coccolite of Phillipstown, N. Y. (*Sil.* 8.46.)

Amianthus, in very strong and flexible fibres, in steatite.

Asbestos, ligniform and compact, traversing serpentine in veins. (*Sil.* 8.47.)

Metalloidal Diallage?, in small quantity, in the serpentine.

Precious Serpentine is found here, and the common serpentine, in immense quantities, in a bed 2 m. long; 2 m. S. of the meetinghouse. It often forms ledges 50 or 80 feet in height, of various colors. Another bed is E. of the meetinghouse, connected with the great bed of steatite.

Potstone, associated with the large bed of steatite, which is quarried extensively 2 m. E. of the meetinghouse. (*Sil.* 8.51.)

Chlorite, deep green, distinctly foliated. (*Sil.* 8.52.)

Sulphur, in cavities of mica slate rock, consisting chiefly of quartz. (*Sil.* 8.53.)

Red Oxide of Titanium, in flat plates, in quartz.

Silico-Calcareous Oxide of Titanium. (*Sil.* 8.58.)

MILBURY.

Brown Talc, called *Vermiculite*, abundant, 6 m. S. E. from Worcester. (*W. Lincoln*.)

MILTON.

Fibrous Limestone, thin veins in

Wacke, rare.

Gypsum, in small quantities.

Compact Feldspar, abundant, forming beds, or even hills. (C.)

Elegant striped varieties are found in this town. (Dana.)

Specular Oxide of Iron, in thin laminæ in quartz, at the Blue hills.

Oxide of Manganese, in beautiful dendritic impressions on, and investing compact feldspar, coating sometimes half an inch thick. (C.)

Wacke, in beds (?) in petrosilex, and forming the basis of amygdaloid.

Sulphuret of Iron, disseminated in

Clay Slate,

Novaculite, and greenstone. (Dana.)

Prase. (Hall.)

MONSON.

Arseniate of Cobalt, in primitive trap, small quantity. (E.)

MONTAGUE.

Magnetic Iron Sand is found in considerable quantities on the banks of the river near, the falls.

Specular Oxide of Iron, near the junction of Miller's river with the Connecticut. Its veins, sometimes 10 feet wide, traverse granite. (C.)

Micaceous Oxide of Iron, near the N. line of the town, on Mr. Taft's land, a little S. W. from the junction of Miller's with the Connecticut, a detached eminence 100 feet high, and not less than 100 rods in circumference at its base, is traversed by numerous veins of this ore. The principal vein at the top of the hill, not less than 10 feet wide. The gangue quartz,—walls and hill, granite. A small proportion of

Sulphuret of Iron, in some specimens. (Sil. 1.438, & 6.207.)

Chlorite, at Miller's falls, penetrating milk white quartz. (Sil. 6. 228.)

MONTGOMERY.

Sulphuret of Lead. (Sil. 1.115.)

NAHANT. (See LYNN.)

NANTASKET BEACH.

Petrosilex, the most frequent pebble on the beach. (*Dana*.)

NANTUCKET.

Jasper; a few specimens have been found in rolled masses near the town.

Amber; sometimes found on the shores of this island; one or two masses of a pound or more have been found, supposed to have washed up by the sea.

Peat, in abundance.

Slaty Argillaceous Oxide of Iron; abundant.

Nodular Iron. (*T. A. Greene*.)

NEEDHAM.

Fibrous Limestone, forming thin veins in

Wacke, rare. (*C*.) *Wacke* is found in rounded fragments. (?)

Chlorite, massive in quartz. (*Dana*.)

NEW ASHFORD.

Greasy Quartz.

Itid Quartz; abundant. It is often the greasy variety. (*Sil.* 8.37, & 38.)

NEW BEDFORD.

Mica, in large plates, sometimes *crystallized*, rarely *prismatic*.

Schorl, in gneiss on Palmer's island, and the adjacent shore; not very good specimens.

Garnets, varying in size from that of a large pea to the smallest grains, are found plentifully in the granite on Pope's island, and on Marsh island.

Feldspar, abundant; very large and handsome specimens, and of a variety of colors, with quartz forming very good specimens of graphic granite.

Epidote, in minute crystals on gneiss, with

Oxide of Titanium, on the new road to Dartmouth, half a m. S. W. of the village.

Hornblende, crystallized in gneiss; abundant.

Sulphuret of Iron, handsome brown cubic crystals in a rock of

Clay Slate, about 6 m. N. of the village, W. side of Acushnet river.

Sulphuret of Molybdena, in the rocks of granite opposite William Rotch, Jr's. (*T. A. Greene.*)

NEW BRAINTREE.

Bog Iron Ore, a bed of, in a valley, a few feet below the surface in a country of gneiss, explored to a considerable extent. (*Sil.* 6.209.)

Adularia; very abundant.

Sulphate of Iron; abundant. (*C. U. Shepard.*)

NEWBURY.

Granular Limestone, about 2 m. from Newburyport, near the turnpike, fine grained, with veins of

Precious Serpentine, which is often extremely beautiful, perfectly resembling that of St. Kevens, in Cornwall.

Garnet, amorphous, associated with tremolite, epidote, &c.

Epidote, in large crystals in the fissures of a rock, whose base is an amorphous garnet.

Tremolite, in fibrous, radiated masses, with granular limestone, serpentine, asbestos, garnet, &c.

Amianthus, and the common variety of

Asbestos, in veins traversing the precious serpentine. (*C.*)

The asbestos of this locality has been mistaken for *Satin Spar*. (*J. W. W.*)

NEW MARLBOROUGH.

Dolomite, containing

Augite, as well as

Tremolite. (*Sil.* 8.35.)

Graphite. (*Sil.* 8.54.)

NEW SALEM.

Steatite, compact, and traversed by numerous seams near the surface, surrounded by gneiss. (*C.*)

Actynolite, in acicular crystals, in

Chlorite. (*Sil.* 6.227.)

NEWTON.

Laminated Calcareous Spar, in amygdaloid, at the Lower falls.

Petriflex, in rolled masses and fragments, in alluvial soil.

Wacke, in rounded fragments, (?) and forming the basis of amygdaloid.

Chlorite, massive in quartz.

Peat, compact and fibrous, abundant. (*Dana.*)

NORTHBOROUGH.

Mica, black, and white, 10 m. N. E. from Worcester. (*W. Lincoln.*)

NORTHFIELD.

Staurotide, 1 m E. from the village, with

Garnets, in mica slate, (C.) on the turnpike to Boston.

NORTHAMPTON.

Amethyst, in beautiful crystals on Mount Tom, near.

Beryl, in the vicinity.

Micaceous Iron; it has a high lustre, and is contorted. (C.)

Fluate of Lime, emerald green, near. (*Sil.* 4.188.)

NORWICH.

Beryl, about half a m. W. from Pitcher's bridge, near a mass of white rocks, to be seen from the bridge. At those rocks

Prismatic and Tabular Mica occurs, extremely abundant and very beautiful. Those rocks, which are a coarse granite, contain also

Schorl, (*Indicolite*?) in abundance. (*Sil.* 7.255.) in 9 sided prisms. (*Sil.* 8.42.)

OAKHAM.

Adularia, very beautiful, occurring in large masses in a coarse grained granite. (*C. U. Shepard.*)

Garnet, scarce, 15 m. N. N. W. from Worcester.

Bog Iron Ore, abundant. (*W. Lincoln.*)

Hornblende. (*C. C. Baldwin.*)

ORANGE.

Schorl, abundant. (*Sil.* 1.114.)

PAXTON.

Tourmaline. (*Sil.* 7.55.)

PELHAM.

Ligniform Asbestos. (C.)

Schorl, abundant. (Sil. 1.114.) It is in large masses, not regularly crystallized, but exhibiting a crystalline tendency.

Black Mica,

Green Hornblende,

Actynolite, in asbestos, and likewise a granular variety of the same mineral, in large masses.

Plasma?* leek green, with occasionally small, whitish dots.

It is translucent,—discovered in digging a cellar, a rounded mass, upwards of 2 feet in diameter. (Sil. 8.235.)

Epidote. (Sil. 1.114.) finely crystallized. (Sil. 8.235.)

PEMBROKE.

Blue Quartz, in amorphous masses. (Sil. 6.247.)

PITTSFIELD.

Granular Limestone. That which furnishes the *Marble*, is associated with mica slate, and other primitive rocks.

Flexible Marble.

Marl, on the border of a pond, containing small shells.

Staurotide, associated with

Garnets, and

Sulphuret of Iron. (C.)

Ferruginous Quartz, yellow, or red tinged with yellow, amorphous, and crystallized, (Sil. 7.252.) forming a considerable rock, composed almost entirely of small crystals. (Sil. 8.88.)

Hornstone, well characterized.

Jasper, grey or bluish; sometimes red.

Black Tourmaline, at Washington, near Pittsfield. (Sil. 7.252.)

Hornblende, black, well crystallized at Washington, near Pittsfield. (Sil. 7.253.)

Carbonate of Soda, in a spring. (Sil. 8.32.)

Magnesian Carbonate of Lime; most of the limestone in this town is of this variety, coarse and fine granular, white and grey, foliated fracture. (Sil. 8.34.)

Dolomite. (Sil. 8.35.)

* Recently ascertained to be the Hornstein ecailleux of Brochant. (C. U. S.)

Tremolite; bladed crystals are sparingly found. (Sil. 8.46.)

Peat; a bed of vegetable matter, approaching this substance under the bed of marl. (Sil. 8.54.)

Oxide of Manganese, radiated, in distinct, 4 sided prisms, in a loose mass of the compact variety. (Sil. 8.57.)

PLAINFIELD.

Limpid Quartz, fine crystals.

Rose Red Quartz, generally in detached masses, sometimes in mica slate.

Milky Quartz, often in large masses.

Cyanite, of a delicate blue.

Garnet, in rhombic dodecaedrons. (C.)

Black Tourmaline, well crystallized in quartz. (Sil. 4.55.)

Porcelain Clay. Sil. 5.270.)

Hornblende, in gneiss.

Irised Quartz. (Sil. 5.271.)

Smoky Quartz, amorphous. (Sil. 6.213.)

Staurotide, in abundance. (Sil. 6.219.)

Faciculite. Fibrous hornblende in mica slate, and talco-micaeous slate. (Sil. 6.226.)

Macle? abundant in mica slate. (Sil. 6.227.)

Sulphuret of Iron, disseminated in limpid quartz.

Magnetic Oxide of Iron, in small octaedrons in mica slate and gneiss. (Sil. 6.232.)

Arenaceous Quartz, often in large masses.

Greasy Quartz. (Sil. 6.247.)

Green Mica.

Black Mica, associated with garnets.

Serpentine, in loose masses.

Chlorite, abundant, and extremely beautiful. (Sil. 6.248.)

Oxide of Manganese, abundant. (Sil. 7.253.) There are two localities of this ore, at both of which it occurs in great abundance and of excellent quality. (J. Porter.)

Laminated Quartz, well characterized; it occurs both of the milky and smoky varieties. (Sil. 8.233.)

Fetid Limestone, in loose masses, dark colored, scintillating, and very fetid.

Blue Quartz, of a good color, in amorphous masses.

Epidote, both crystallized and granular.

Cumingtonite, of Prof. Dewey, in large quantities; it is perfectly well characterized, many of the specimens being elegant, and even superb.

Magnetic Oxide of Iron, in small cubic crystals, in arenaceous quartz.

Carbonate of Iron, beautifully crystallized in rhombs, which are nearly white, have a shining surface, and are frequently curved, or undulated.

Siliceous Oxide of Manganese, in large quantities; it is of a light, but very lively rose red color, and takes a fine polish; associated with the grey oxide, and around both, the black oxide commonly forms an envelope. (*J. Porter.*)

PLYMOUTH.

Nodular Argillaceous Oxide of Iron, near.

Earthy Phosphate of Iron, near. (*C.*)

POWNAH.

Aluminous Slate, in

Clay Slate, 5 m. N. at the base of a hill E. of the Hoosack.

(*Sil.* 1.342.)

Sulphuret of Iron, in the side of a hill. (*Sil.* 8.55.)

QUINCY.

Clay Slate, forming hills; much quarried.

Novaculite, in beds, in argillite, into which it passes. (*Dana.*)

READING.

Sulphuret of Iron, in rolled masses of granite. (*Dana.*)

REHOBOTH.

Yellow Ochre, abundant, near a spring on Asa Bliss' farm,
 $\frac{1}{2}$ a m. E. of Palmer's river. (*Bliss.*)

RICHMOND.

Gibbsite, in a neglected mine of

Brown Hematite of Iron. (*C.*)

White Granular Limestone.

Iron Ore. (*Sil.* 5.21.)

Sulphuret of Iron, in large crystals. (*Sil.* 8.55.)

Earthy Oxide of Manganese, with gibbsite. (*Sil.* 8.57.)

ROWE.

Common Talc. (*Sil.* 6.228.)

Rhomb Spar, in
Steatite.

Epidote, granular, in hornblende rocks.

Actynolite, in flattened 4 sided prisms, in talc and chlorite.

Chlorite, scaly, in large masses.

Magnetic Oxide of Iron, in octaedral crystals in mica slate.
(H. M. Wells.)

ROXBURY.

Petrosilex, in rolled masses and fragments in alluvial soil.
(Dana.)

ROYALSTON.

Tourmaline. (C. C. Baldwin.)

RUSSEL.

Serpentine, a vein or quarry between this and Westfield; also a mountain of it about 20 m. distant, handsome. (Sil. 3.238, & 8.49.)

SAUGUS.

Red Jasper, a large mass, very fine, S. easterly of the m. h. on the declivity, near Saugus river. Much of it has yellow stripes. (J. W. W.)

SAVOY.

Steatite. (C.)

Mica, dark colored. The layers separate surprisingly on being heated. (Sil. 6.248.)

Talc, brownish or dark gray, in a narrow stratum, which exfoliates even in the flame of a candle; swelling into a large mass, and winding about in a curious manner. (Sil. 8.50.)

Porcelain Clay, in a bed three feet deep, and of unknown extent, several feet below the surface, connected with mica slate. (Sil. 8.53.)

SEEKONK.

Fluate of Lime, $\frac{3}{4}$ of a m. from India bridge, Providence, massive in a vein of quartz, traversing sienite or granite. Deep purple *Chlorophane*; rare. (C.)

White Quartz, massive and crystallized; abundant and good specimens in veins in greywacke, $\frac{1}{2}$ m. eastwardly from the

old meetinghouse, on the left of the road by the central factory ; also 1 m. farther E. on the farm of Daniel Carpenter, deceased.

Limpid Quartz, crystallized, rare.

Blue Quartz, colored by chlorite, and

Chlorite, on white quartz, same place.

Shale, and

Anthracite were found, at Hunt's factory, $\frac{3}{4}$ of a m. S. from the old meetinghouse.

Peat, abundant, on Dr. Hutchins' land.

Bog Iron Ore, on the left of the middle road, (5 m.) from Providence to Warren, on Dr. Hutchins' farm ; also on the farm called the Peck place, S. adjoining ; and on Mr. Peter Wheaton's land, abundant.

SHARON.

Lenticular Argillaceous Oxide of Iron, in a pond. (C.)

SHEFFIELD.

Granular Limestone. Marble annually quarried in this town to the amount of \$8,000 ; white and clouded.

Dolomite, containing tremolite.

Staurotide, in well defined crystals, with

Garnets, in mica slate.

Tremolite, in parallel, diverging, and stellated fibres ; some of its fibres are 2 feet long.

Oxide of Manganese. (C.) On both sides of a rivulet, descending from a large mountain on the E. side of the town. (Sil. 4.189.)

Fetid Magnesian Carbonate of Lime, a new variety. (Sil. 8.34.)

Baikalite ? on the dolomite. (Sil. 8.47.)

Bog Iron Ore is found occasionally in some quantity. (Sil. 8.56.)

Clay Slate, in place in the W. part of the town. (Sil. 8.259.)

Alum, abundant, found by E. W. Cleaveland, Esq. Pounds of it can easily be collected in as nearly a pure state as that of commerce.

Black Schorl. (Charles A. Lee.)

SHELBURNE.

Radiated Quartz. (Sil. 1.112.)

Garnets.

Sulphur, pulverulent; small quantities in mica slate. (Sil. 1.114.)

Scapolite? (Sil. 6.225.)

Fibrous Hornblende, in large and broad fibres or lamellæ in mica slate. (Sil. 6.226.)

Serpentine, in rolled masses. (Sil. 6.227.)

Magnetic Oxide of Iron, in octaedrons, in mica slate and gneiss. (Sil. 6.232.)

Red Oxide of Titanium, (Sil. 1.115.) in veins of quartz, in mica slate. (Sil. 6.236.)

SHUTESBURY.

Sulphuret of Molybdena, in foliated masses and 6 sided tables, sometimes an inch long, in a vein traversing a granitic rock.

(C.) Near Northampton, E. of Con. river, on William Eaton's land, an interesting locality, remarkably beautiful, and abundant. (Sil. 1.238.)

Talc, and

Chlorite. (Sil. 1.113.)

Common Schorl; abundant.

Actynolite, in gneiss.

Epidote, (Sil. 1.114.) in small crystals in gneiss. (Sil. 6.223.)

Staurolite; abundant. (Sil. 6.219.)

Lamellar Hornblende, green, in gneiss. (Sil. 6.226.)

Magnetic Oxide of Iron, in octaedrons in gneiss and mica slate. (Sil. 6.232.)

SOUTH BROOKFIELD.

Precious Garnet, or pyrope, abundant in gneiss. (Sil. 7.30.)

SOUTH HADLEY.

Coal.

Jet, in the coal formation.

Sulphuret of Antimony, near. (C.)

SOUTHAMPTON.

Sulphate of Barytes, in veins of galena, 8 m. S. W. from Northampton.

Rhomb Spar, in veins of galena, traversing granite.

Fluate of Lime, in sulphate of barytes and granite, associated with galena, quartz, &c.

Radiated Quartz, at the lead mine, often constituting the gangue of the ores.

Quartz Crystallized, in the cavities of that which forms the gangue of the ores; sometimes large, and often extremely beautiful.

Adularia, in the same granite which contains galena; white, with a slight tinge of yellow, green, or blue.

Tale, with sulphate of barytes.

Steatite, at the lead mine, green, compact, and soft.

Pyritous Copper, either disseminated or exists in a vein, in the lead mine.

Sulphuret of Lead, in a vein traversing granite, or other primitive rocks, 6 or 8 feet in diameter, and extends at least 20 miles, from Montgomery to Hatfield. The bulk of this vein is quartz, in which the ore is disseminated in masses. The same vein contains the

Sulphate of Lead,

Molybdate of Lead,

Carbonated Muriate of Lead, in groups of green crystals on galena; also

Phosphate of Lead, and

Sulphuret of Zinc; both massive and finely crystallized. (C.)

Serpentine, 723 feet in the lead mine drift; also about 10 m.

S. near the line between Westfield and Russel, 4 W. from Westfield Academy, in a granitic hill. (Sil. 1.137.)

Soapstone; beautiful green, 670 feet in the lead mine drift.

Coal, a stratum 480 feet in the drift. (Sil. 1.138.)

Yellow Quartz, in crystals resembling the Siberian topaz, at the lead mine. (Sil. 6.213.)

Argentine, on very compact granite at the lead mine, and is also associated with

Fetid Quartz, which is found in small masses in it, and upon it. (Sil. 6.333.) This is the best locality of argentine in the U. States. (Sil. 7.248.)

Agate, on which are quartz crystals.

SPRINGFIELD.

Pisolite? in large quantities, on Chicopee river. (Sil. 2.238.)

Sulphuret of Lead?

STERLING.

Macé occurs abundantly in a dark bluish

Clay Slate.

Spodumene exists abundantly in a granitic rock, composed principally of hyaline quartz and mica, the spodumene supplying the place of feldspar, (*J. A. N. S. P.* 3.235.) on Mr. Putman's farm. (*Sil.* 8.120.) This mineral is very abundant, in a compound rock of perhaps 30 ions, consisting of Quartz, mica, and spodumene, and

Siliceous Feldspar, in small quantity. (*J. W. W.* 1.600.)

Staurotide, not abundant.

Carbonate of Iron, abundant.

Sulphuret of Iron, not abundant.

Sulphuret of Copper, rare. (*W. Lincoln.*)

STOCKBRIDGE.

Dolomite.

Fetid Carbonate of Lime, associated with primitive rocks, almost white, in large plates and rhombs, or in detached masses, sometimes connected with calcareous spar not fetid. (*C.*)

Laminated Calcareous Spar, in granular limestone. (*Sil.* 8.33.)

Magnesian Carbonate of Lime; most of the limestone of this town is of this variety; coarse and fine granular, white and grey, foliated fracture. (*Sil.* 8.34.)

Smoky Quartz, in hexaedral crystals. (*Sil.* 8.37.)

STONEHAM.

Marble, compact, highly crystalline; snow white.

Hornstone.

Saussurite?

Tremolite, and

Green Allochorite, (*J. W. W.* 1.95, & 96.) 12 m. from Boston.

Sulphuret of Iron, in rolled masses of granite. (*Dana.*)

STOW.

Phosphate of Lime, in distinct crystals, in rolled masses of coarse granite.

Beryl, and a little

Tourmaline is contained in some of the granite. (*J. W. W.* 1.600.)

STURBRIDGE.

Adularia. (*C.*)

SUNDERLAND.

Chalcedony, in greenstone. (Sil. 6.216.)

Hornstone, in narrow veins, in greenstone, well characterized. (Sil. 6.218.)

Lamellar Hornblende, black, good specimens. (Sil. 6.226.)

Sulphuret of Iron, in

Bituminous Shale. (Sil. 6.232.)

Satin Spar, in bituminous shale, with *ichthyolites*, in abundance. (Sil. 6.236.)

TEMPLETON.

Adularia.

Yellow Earth.

Bog Iron Ore.

Sulphate of Iron. (C. C. Baldwin.)

TOPSFIELD.

Basanite. (C.)

TYRINGHAM.

Sulphur, pulverulent, in mica slate. (Sil. 8.54.)

Sulphate of Iron, in a loose earth near the Shaker village. (Sil. 8.56.)

UXBRIDGE.

Peat, S. E. part of the town, abundant.

WALTHAM.

Calcareous Spar, the laminated variety in greenstone and *Clay Slate*. (C.)

WARE.

Native Alum, in mica slate. (Sil. 8.235.)

WARWICK.

Sulphur, pulverulent, in small quantities in mica slate. (Sil. 1.114.)

Specular Oxide of Iron, in veins, which have been wrought to a small extent. (Sil. 1.115.)

Bog Iron Ore. (Sil. 1.436.)

MASSACHUSETTS.

WATERTOWN.

Prehnite. (C.)

Laminated Calcareous Spar, in
Clay Slate, and greenstone.

Common Hornblende in rounded masses. (Dana.)

WESTBOROUGH.

Amethystine Quartz, regularly crystallized, rare. (W. Lincoln.)

WEST BROOKFIELD.

Precious Garnet, or *pyrope*? abundant in gneiss. (Sil. 7.30.)

WEST CAMBRIDGE.

Prase. It appears to be colored by epidote. (C.)

Petrosilex, in rolled masses, in alluvial soil.

Garnet, in rounded masses of granite.

Common Hornblende, in rounded masses. (Dana.)

WESTFIELD.

Serpentine, in granite; it is hard, and sometimes associated
with

Talc. (C.) See Southampton, serpentine; also (Sil. 3.238.)

Sulphuret of Iron, compact and amorphous in

Bituminous Shale. (Sil. 6.232.)

Nephrite, on Westfield river, rare. (Sil. 8.43.)

WESTFORD.

Indurated Talc. (C.)

WEST SPRINGFIELD.

Adularia. (C.)

Fibrous Hornblende, in veins, in fine red sandstone. (Sil.
8.33.)

Amethyst, in trap rocks. (Sil. 8.38.)

Prehnite, in secondary greenstone, in radiated masses. (Sil.
8.45.)

Brown Spar, associated with amethyst. (Sil. 8.235.)

Flint, in

Bituminous Shale, of the coal formation on the bank of Aga-
wam river. (Sil. 8.245.)

WEST STOCKBRIDGE.

Granular Limestone; that which furnishes the marble wrought in this county is associated with mica slate, and other primitive rocks. The marble is white, but more frequently clouded. Amount of marble annually obtained from this town, may be estimated at from \$25,000 to \$30,000.

Flexible Marble.

Milky Quartz, in veins, traversing

Clay Slate, and containing

Chlorite. (C.)

Laminated Calcareous Spar, in granular limestone.

Agaric Mineral, in a cavern, in small quantity. (Sil. 8.33.)

Compact Oxide of Manganese. (Sil. 8.57.)

WHATELY.

Radiated Quartz, forming a part of the gangue of galena. (C.)
Sulphuret of Lead, (Sil. 1.115.) a vein in the N. W. part of the town, in a gangue of radiated, and common quartz, in granite. (Sil. 6.204.)

Native Copper, in geest, on the limit, between the primitive and alluvial soil, and about 5 m. from secondary greenstone, or the coal formation. (Sil. 6.230.)

WILLIAMSBURG.

Rose Red Quartz, generally in detached masses, sometimes in mica slate.

Chlorite Slate, near, in the Taconick range, with

Argillaceous Slate, and talcose slate. (C.)

Mica, straw yellow, sometimes rose red; it exists in excess in granitic veins. (Sil. 6.220.)

Prismatic Mica; good specimens may be obtained in the N. part of the town, in granite. (Sil. 7.30.)

Argentine, in large masses, fine and abundant. (Sil. 7.249, & 8.34.)

Plumose Mica, (Sil. 8.41.) abundant in granite.

Quartz, a singular variety. "It has the form of hog tooth spar, incrustated with very minute crystals of quartz; but on breaking it, is found to be hollow, with larger crystals at its base; or, in some few instances, it is entirely filled up with semi-crystallized quartz."

Epidote, in quartz, remarkably beautiful. (J. Porter.)

WILLIAMSTOWN.

Crystallized Magnesian Carbonate of Lime, on *Compact Limestone*; (C.) primitive? at Westbrook. (Sil. 1.343.)

Dolomite.

Granular Quartz, at Stone hill; it forms perpendicular banks 50 to 100 feet high, and is covered by argillite. It is white and translucent, or colored by iron. (Sil. 1.342.)

Slaty Chlorite, near, in the Taconick range, with

Clay Slate, and talcose slate.

Magnetic Oxide of Iron, in octaedrons, in mica slate, (C.) at the base of Stone hill.

Limpid Quartz, crystallized.

Rose Quartz; one specimen.

Greasy Quartz. (Sil. 1.341.)

Carbonate of Soda.

Carbonate of Lime, in rhomboidal, and in lenticular crystals, on granular limestone, at the N. and W. base of Saddle mountain.

Talc, in veins in compact limestone, near the College.

Chlorite, in rounded masses; generally with quartz, scattered through the valley. (Sil. 1.342.)

Calcareous Spar, Crystallized, on scattered fragments of limestone, on Green river, with pieces of white

Feldspar.

Jasper, brown, or red, black, and striped, in small, rounded masses.

Black Tourmaline, handsome, in scattered pieces of mica slate, at the base of Stone hill.

Amianthus: one specimen attached to argillite.

Soap Stone, coarse, in the limestone, near the College.

Yellow Earth, from which yellow ochre is obtained, in great quantity in a hill, on the bank of Green river, 2 m. S. of the College.

Sulphuret of Iron, in veins of quartz in grey limestone, on Westbrook.

Bog Iron Ore, on the Hoosack, a mile S. E. of the College.

Sulphuret of Lead; a specimen in limestone, at West brook. (Sil. 1.343.)

Potter's Clay, excellent for common pottery.

Reddle, connected with yellow earth, at the north end of Saddle mountain, but low down.

Supersulphuret of Iron, massive, and crystallized, in argillaceous slate, mica slate, compact limestone, and quartz. (Sil. 1.344.)

Prase. See *Florida*.

Calcareous Tufa.

Siliceous Limestone.

Marl.

Fetid Quartz, very fetid. (Sil. 5.268.)

Actynolite. (Sil. 5.269.)

Fetid Carbonate of Lime, dark colored, fine grained, very fetid. (Sil. 8.35.)

Basanite, in rolled pieces. (Sil. 8.41.)

Indurated Talc, in the limestone, near Williams College, brown, or grey. (Sil. 8.51.)

Chlorite, compact, associated with quartz; very abundant.

Graphic Slate, in small quantity, with argillite. (Sil. 8.52.)

WINCHENDON.

Limpid Quartz. (C. C. Baldwin.)

WINDSOR.

Asbestos, adhering to a large mass of

Actynolite, near the Cummington soapstone quarry. (Sil. 6.248.) It is found in the N. part of the town, in large, and elegant crystals, with shining surfaces, which occur in fascicular or radiated groups, or are confusedly intermixed. (J. Porter.)

Serpentine, in the N. W. part of the town. (Sil. 8.50.)

Steatite, very fine, from which inkstands are wrought.

Potstone. (Sil. 8.51.)

Epidote, in prismatic crystals in quartz; also granular in hornblende rocks.

Talc. (H. M. Wells.)

Blue Quartz, of a good color, in amorphous masses.

Magnetic Oxide of Iron, in octaedral crystals, in

Chlorite, with actynolite. (J. Porter.)

WOBBURN.

Pyritous Copper, with

Magnetic Oxide of Iron, in a vein, traversing greenstone.

Muriate of Copper, in plates, and small tuberculous masses investing pyritous copper. (C.)

Sulphuret of Iron, in

Sulphuret of Copper.

Nodular Argillaceous Oxide of Iron, in alluvial soil. (*Dana*.)

WORCESTER.

Graphite? and

Anthracite, approaching graphite, (*C*.) E. of the village. Many tons of this have been ground, and sold for black lead.

Idocrase, accompanied by small, pale green crystals of

Pyroxene, and beautiful, small

Garnets, of a wine yellow color, in rhomboidal dodecaedrons.

(*Sil.* 7.50.)

Brown Talc, or vermiculite, mentioned in (*Sil.* 7.55.) See

Milbury. It has not been found in this town.

Hornstone, scarce. *Idocrase* is not abundant.

Asbestos, and

Amianthus, scarce, in the anthracite, which is abundant.

Carbonate of Iron, abundant.

Arsenical Sulphuret of Iron.

Sulphuret of Lead, scarce. (*W. Lincoln*.)

WORTHINGTON.

Red Oxide of Titanium, imbedded in a white quartz, which is said to occur in hornblende slate. (*C*.)

Graphite. (*Sil.* 6.248.)

Ferruginous Quartz, often crystallized. (*Sil.* 7.252.)

Beryl, very large, fine crystals, sometimes whitish, in granite.

(*Sil.* 8.43.)

Epidote, upon hornblende rocks.

Idocrase. (*Sil.* 8.44.)

Serpentine. (*Sil.* 8.49.)

Steatite, fine, or potstone. (*Sil.* 8.51.)

Hyalite, or stalactical quartz.

Blue Jasper, on the margin of a brook. (*J. Porter*.)

ZOAR.

Asbestos, the ligniform variety is abundant in

Serpentine, on the bank of Deerfield river.

Talc, in veins in serpentine.

Chlorite, abundant, containing

Magnetic Oxide of Iron, in octaedral crystals. (*H. M. Wells*.)

RHODE ISLAND.

BLOCK ISLAND. See NEW SHOREHAM.

BRISTOL.

Amethyst, crystallized, in decomposing granite, about 2 m. S. S. E. from Bristol village, and $\frac{1}{4}$ of a m. from Bristol ferry landing, on the shore of Mount Hope bay ; abundant.

Sulphuret of Iron, cubic crystals in argillite. (*Sil.* 8.199.) Two boys have obtained, in all, they suppose, about 3 pecks of amethysts, by excavating this ledge, where the granite had much decomposed ; some of their drifts are several feet in length, above the middle of the ledge ; but they obtained most of them in one place. A few specimens were found on the shore at low water, which led to the discovery of this important locality. The feldspar, in a decomposing state, is found adhering, more or less, to all the crystals.

Common Quartz, amorphous and crystallized, at Mount Hope. *Milky Quartz*, in rolled fragments, on the E. shore of Pasquash island, W. of Bristol ; good specimens.

Agate, coarse, consisting of red jasper, and quartz, and

Shale, in rolled masses, with vegetable impressions ; abundant on the S. E. shore of the same island.

Magnetic Iron Sand ; same shore. (*Prof. De Wolf.*)

Clay Slate, and shale, with vegetable impressions, on the W. shore of same island. (*Stephens.*)

BURRELLVILLE.

Quartz geodes, with small crystals, limpid and opaque, sometimes laminated, with drusy, opaque crystals, and

Chalcedony, mammillary, pale blue, on quartz, rare, 10 m. N. W. from Woonsocket, on Mr. Salisbury's land.

COVENTRY.

Schorl.

Limpid Quartz, connected with

Tabular Quartz, in gneiss.

Black Mica, in gneiss.

Green Tremolite, imbedded in an aggregate of *Talc*, of a dark green color, and granular quartz, in the N. W. part of the town, $\frac{3}{4}$ of a m. S. W. of Blanchard's mill.

CRANSTON.

Hematitic Brown Oxide of Iron, (mentioned by Cleaveland, as existing at Scituate,) at the "Ore beds." (*Eddy*.)

CUMBERLAND.

Quartz, 12 m. from Providence, "Diamond hill" is composed, in a great measure, of quartz, often *crystallized*; (C.) some large crystals have been found in alluvial soil, and one amorphous, limpid piece, 3 or 4 inches in diameter, was found near Diamond hill.

Jasper, at Diamond hill, with primitive rocks; (C.) principally red, sometimes green, connected with quartz.

Epidote, on Tower hill, both massive and crystallized, in quartz. (C.) Fine specimens have been obtained in detached masses in stone walls about "Cumberland hill;" also about $\frac{1}{2}$ a m. N. N. W. from Cumberland m. h. on the left of the road, at an old iron mine hole; and on Ziba Ballou's land, by blasting; also about a m. N. E. from the m. h. on George Mason's farm, at an old mine hole, in beautiful, hexagonal prisms, on chlorite slate, and connected with crystallized hornblende, superb specimens; also at a mine hole, southerly, in the same field, in acicular, pale yellow crystals, and arenaceous, associated with crystallized hornblende, which is sometimes radiated, forming elegant specimens; also $1\frac{1}{2}$ m. E. from the m. h. E. of the yenite locality, on the side of a hill, N. of the road; color brown, in quartz. Good specimens are now scarce.

Tremolite, on Tower hill; it is green, of different shades, and associated with actynolite. (C.) The writer has never seen any green tremolite from Cumberland.

Red Hematite, on Diamond hill; it is botryoidal, mammillary, &c. (C.)

Crystallized Hornblende, and

Native Magnet, in considerable quantity, about a m. from Tower hill. (*Sil.* 4.285.) It is found in small fragments, at Cumberland hill, about $\frac{1}{2}$ a m. N. N. W. from the m. h. on the left of the Wrentham road, on a hill, at an ancient iron

mine hole. The hornblende at this locality was immediately exhausted ; many superb specimens have lately been obtained at the two mine holes, above described, with epidote ; these specimens were covered by the earth, thrown out many years since.

Fluate of Lime, about 1 m. from Diamond hill, on the road towards Wrentham, in veins of quartz, traversing a granitic or sienitic rock. It is found at a number of different places ; colors, purple, blue of various shades, blue with a tinge of green, and white. (*Sil.* 7.54.) All the fluor spar found in this town, including the white, does not decrepitate, but shines with an emerald green light, when heated, and is of the variety called

Chlorophane. It is usually found in small amorphous masses, but sometimes crystallized.

Yenite, crystallized and amorphous. (*A. L. N. H. N. Y.* 1.51.) & (*Sil.* 7.251.) This is found about 1 m. E. of the m. h. by the side of the road, by Fenner Brown's, on the left, among fragments of rock, and on the right, where the ledge has been excavated at some former period, in greasy quartz, and associated with actynolite, brown spar, calcareous spar, &c. Some of it is whitish, and some of it reddish, and interspersed in an amorphous state in a reddish mineral, approaching the siliceous oxide of manganese. (*Troost.*)

Carbonate of Lime, $\frac{1}{2}$ of a m. W. of the yenite locality, on the S. of the road ; abundant.

Brown Spar, associated with yenite.

Murl, a bed covering the bottom of a pond, on Mr. Jesse Brown's farm.

Smoky Quartz in small veins, in different parts of the town.

Greasy Quartz, at the yenite locality, fine specimens ; some of it is traversed by acicular actynolite, forming beautiful specimens.

Radiated Quartz, on Diamond hill, which is about $3\frac{1}{2}$ m. N. E. of the m. h. ; and also on the banks of the Blackstone river.

Granular Quartz, W. of the m. h. near the Blackstone.

Amethyst ; one water worn crystal has been found in Blackstone river, at the ford called Martin's wading place, below Whipple's factory, believed to have been washed several miles from its gangue.

Prase, at the yenite locality, associated with acicular, and asbestiform actynolite; abundant.

Ferruginous Quartz, red, amorphous, in detached masses, in the vicinity of "Cumberland hill,"* which is about 12 m. Northerly of Providence, and crystallized, on Diamond hill; yellow, amorphous, and crystallized, about 1 m. S. of the m. h. and in several other places.

Chalcedony; about 1 m. E. of the m. h. it is found well characterized; in some specimens it appears to be passing into

chalc Common Opal, and

Hornstone, well characterized.

Agate; on Diamond hill, some fine specimens have been found.

Schorl, imperfect crystals have been found in rolled masses of granite.

Feldspar, crystallized; some fine specimens have been obtained from stone walls; rare.

Garnet. The common garnet is found near an ancient "mine hole," on the western declivity of a high hill, E. of Sneerch's pond, about $\frac{1}{2}$ a m. N. N. E. of the m. h. It is of a sub-lamular texture, exhibiting, in some of the cavities, a tendency to the dodecaedron crystallization, frequently associated with actynolite, and connected with chlorite. Massive garnet, of a brownish red, some of which is crystallized, may be found E. of the above, in the vicinity of another mine hole; abundant; and about $\frac{1}{2}$ a m. E. from the last mentioned, in the vicinity of another mine hole, in rhombic dodecaedrons, color yellowish green, on chlorite, some specimens are black, on magnetic iron ore; many beautiful specimens have lately been obtained from this locality.

Zoisite, $\frac{1}{2}$ a m. W. of Diamond hill, beautifully crystallized, in veins of quartz. The crystals resemble Sillimanite, but are more brilliant; not abundant.

Skorza; handsome specimens of arenaceous epidote, sometimes connected with hornblende, beautifully crystallized, were found in abundance, about 1 m. easterly from the m. h. on Geo. Mason's land, under the earth, &c. which was thrown from an ancient mine hole.

Idocrase? at the mine hole, on Geo. Mason's land, and near Sneerch's pond.

Tremolite, near the mine hole, on the side of the hill, east of Sneerch's pond, and in a field S. of the road leading to, and

* "Cumberland Hill" includes the Meetinghouse, Bank, Post Office, and vicinity.

W. of, the yenite locality, in carbonate of lime ; abundant. *Amianthus*, associated with epidote in quartz, and in the anthracite of this town, sometimes found adhering to the surface of rocks ; much was formerly obtained at the mine hole near Sneerch's pond. A considerable quantity was lately found in tufts in the earth and rubbish which was thrown from an ancient mine hole on Geo. Mason's land.

Hornblende. Superb specimens of crystallized hornblende have lately been obtained at two mine holes on Geo. Mason's land, about 1 m. E. of the m. h. in abundance ; sometimes in masses of large aggregated crystals, sometimes in distinct crystals, projecting 1 or 2 inches from fragments of rock, and sometimes in parallel, diverging, or radiated masses, associated with pure epidote, crystallized, massive, or arenaceous.

Actynolite ; the variety, acicular actynolite, or asbestous actynolite of Jameson, is very abundant in this town ; it is found at the yenite locality, associated with greasy quartz, and in distinct masses, in parallel fibres, and sometimes in diverging and radiating groups, presenting knotty curls. Also at the mine hole near Sneerch's pond, associated with epidote, garnets, &c. and at a mine hole on Geo. Mason's land, in separate masses, and associated with epidote, and in other places connected with chlorite, &c.

Steatite, in the western declivity of the hill E. of Sneerch's pond, quality inferior.

Chlorite is found in quartz, and sometimes coloring it.

Chlorite Slate abounds in this town, particularly between the m. h. and Diamond hill.

Clay Slate occurs in many places ; it may be seen at the Blackstone, W. of the m. h. underlaying a quartz rock.

Shale, with vegetable impressions, at the anthracite mine.

Anthracite, about 3 m. N. of Pawtucket, W. of Abbott's run.

Graphite, with the anthracite, of an impure quality ; it is rather anthracite approaching to graphite.

Peat, on the borders of Sneerch's pond ; also in a meadow $\frac{1}{2}$ a m. N. of the m. h. of good quality, and abundant ; also 4 m. E. of the m. h. on Nathan Comstock's land ; also on Jesse Brown's land, compact.

Pyritous Copper,

Blue Carbonate of Copper, and

Green Fibrous Carbonate of Copper, are found in small quantities at five different mine holes, where shafts were sunk

many years since. On the right of the Wrentham road, before arriving at the first house,—on the left of the same road, $\frac{1}{2}$ a m. from the m. h. on an eminence, associated with magnetic oxide of iron,—at another excavation, $\frac{1}{4}$ of a m. beyond,—at the mine hole, near Sneerch's pond, associated with magnetic iron, and molybdena,—at a mine hole on Geo. Mason's land, and at another on Mr. Levi Tower's land. The specimens are small and poor, being the remains of fragments blasted from 40 to 100 years since.

Sulphuret of Iron, at the mine hole near Sneerch's pond, and about 2 m. easterly of the m. h. on Mr. Stephen Joslin's farm, in cubic crystals, in chlorite slate, abundant; also in the shale at the anthracite mine.

Magnetic Oxide of Iron, 2 m. N. N. E. of the m. h. on the left of the Wrentham road, in an immense bed, constituting a hill. Most of this ore is a *metalliferous porphyry*, having crystals of feldspar imbedded in the iron; it is found in rolled masses *S. of the bed*, in this town, North Providence, and Providence, and may be seen in most of the stone walls. Magnetic oxide of iron was obtained from most of the mine holes in this town, of which the writer has visited thirteen. Small octahedral crystals are found at the mine hole, near Sneerch's pond, in chlorite, and associated with common garnet, actynolite, &c.

Specular Oxide of Iron, and

Micaceous Iron, are sometimes found in detached masses of quartz, with epidote.

Ochrey Brown Oxide of Iron; a stratum in gravel, $2\frac{1}{2}$ m. N. of Pawtucket, on the left bank of the Blackstone.

Bog Iron Ore.

Sulphuret of Lead, in veins of quartz, $\frac{1}{4}$ a m. N. W. of Diamond hill, rare.

Sulphate of Iron, at the yenite locality, coating the surface of the rock in a perpendicular situation.

Oxide of Manganese, $2\frac{1}{4}$ m. N. of Pawtucket, on the left bank of Blackstone, at the foot of a hill, a stratum 6 to 18 inches thick in gravel, resting upon the ochrey brown oxide of iron.

Siliceous Oxide of Manganese, in a gangue of greasy quartz, yenite, actynolite, &c. at the yenite locality.

Sulphuret of Molybdena, associated with magnetic oxide of iron, and sulphuret of iron, at the "mine hole," near Sneerch's pond.

EAST GREENWICH.

Milky Quartz, and
Ferruginous Quartz, red, on Potowomut neck, in detached fragments; fine specimens.
Asbestos, in veins, in rounded masses of
Graphitic slate, on the shore of the Cove, and on Potowomut neck. (*W. Greene.*)

FOSTER.

Cyanite, in a water course on Mr. Blanchard's land $2\frac{1}{2}$ m. S. W. from Providence; (*Sil.* 5.403.) rare.

Yellow Quartz, citrine, on Moosoop river, below Mr. Blanchard's mill, $2\frac{1}{2}$ m. N. of the "Great Chesnut," W. of the road leading from the Great Chesnut to Sterling, in rolled masses, of a gold yellow, semi-translucent, abundant.

Specular Oxide of Iron, in quartz, with cyanite, &c.

Garnet, in an aggregate of quartz, cyanite, &c. rare.

Talc, of a dark green, in masses, and also intermixed with light colored, granular quartz, and imbedding small masses of dark green tremolite, approaching black, forming an aggregate which constitutes the bed of Moosoop river, at the cyanite locality, and for some distance below, and on the right bank. This talcose rock appears in a ledge, near the river W. in detached fragments, $\frac{2}{3}$ of a m. on the surface, N. W. and $\frac{2}{3}$ of a m. S. W. of Blanchard's mill. Some of it is compact, its component parts being intimately intermixed, and taking cyanite into its composition, with small garnets. The talc of this rock resembles mica more than any the writer has ever seen; it is in small, curved lamellæ, placed in a longitudinal direction, forming tufts, or so intimately mixed with the quartz as to resemble a compact gneiss, or fine grained granite.

Green Tremolite, of a dark green, associated with green talc, and in an aggregate of talc and quartz.

Sulphate of Iron, efflorescing in a decomposed rock, on John Foster's land, between the abovementioned road, leading to Sterling, and Blanchard's mill.

Iron Ore, in rolled masses, and large boulders of greenstone, forming a crust, and penetrating the rock through; found only on the E. side of Moosoop river, on the right of the road leading from the Great Chesnut to Sterling, 2 m. from the

RHODE ISLAND.

Chesnut, scattered over the surface, but most abundant in a hill, about 80 rods from the road, on Samuel Green's land. This ore was worked 50 years ago at the Hope furnace, and is said to have made hollow ware of a superior quality; abundant.

JAMESTOWN.

Quartz, common white, in large beds, and in large veins in grey wacke on the shores of Conanicut island. One mass gives the name of "White Rock Point," on the W. shore.

Staurotide, with small reddish, and greenish

Garnets, in micaceous slate, S. W. corner of Arnold Hazard's farm, on the W. shore of Conanicut island, $4\frac{1}{2}$ m. from the N. end, and $5\frac{3}{4}$ m. from S. end of the island; abundant.

Hornblende, with garnets, in rolled masses on the island; rare.

Clay Slate, on R. H. Watson's farm, and other places; also

Shining Argillite, yellowish grey, forming the eastern shore of the island N. of the light house, and near the ferry landing, &c.

Graphite, in quartz, at the staurotide locality.

JOHNSON.

Granular Limestone,

Dolomite,

Magnesian Carbonate of Lime, Crystallized, in steatite.

Tremolite, in carbonate of lime, and in steatite.

Actynolite, in steatite,

Indurated Talc, and

Steatite, about 4 m. from Providence, and $\frac{1}{2}$ a m. W. of the road.

LITTLE COMPTON.

Clay Slate. (J. Stephens.)

MIDDLETOWN.

Common Augite, imbedded in talcose slate, forming the eastern shore of Sechuest point, S. E. part of Middletown.

Clay Slate, N. and N. E. part of the town, and elsewhere.

NEWPORT.

Graphic Slate, in transition argillite, which accompanies the anthracite.

Magnetic Oxide of Iron, crystallized in serpentine. (C.)

Serpentine, an extensive bed on Brenton's neck, at a place called Willow grove, on Thomas Hazard's farm, 1 m. in a direct line S. W. from the Episcopal church, S. of the rocks of

Carbonate of Lime, which lie in the S. of Newport harbour. The bed of serpentine extends, perhaps, $\frac{1}{4}$ of a m. W. to the shore.

Petrosilex, passing into

Hornstone? extending from the bed of serpentine, S. W. to the S. shore of the island.

Basanite, imbedded in the petrosilex, in different places, and more abundant, $2\frac{1}{4}$ m. in a direct line S. W. by S. from the Episcopal church, on the W. side of Price's creek, 60 rods from its mouth.

Asbestos, in the serpentine, and with the anthracite.

Clay Slate.

Shale, with vegetable impressions, and

Anthracite, $1\frac{1}{4}$ m. S. E. in a direct line from the Episcopal church, extending along the shore, S. E. 100 rods, and ending at Taylor's point in a bed of

Yellow Ochre, of fine quality.

Sulphuret of Iron, in the anthracite. (J. Stephens.)

NEW SHOREHAM.

Magnetic Iron Sand; abundant. (C.)

Peat, compact and fibrous; abundant. (Eddy.)

NORTH PROVIDENCE.

Green Talc. (C.)

Limpid Quartz; beautiful crystals, on Stephen Brown's farm, near the Douglass turnpike, about 3 m. N. of Providence.

Peat, 3. m. N. W. from Providence; abundant. (Eddy.)

Granular Limestone, a bed of good quality in

Clay Slate, on Mr. Smith's farm, 4 m. N. W. of Providence.

Calcareous Spar, crystallized in the limestone. Also reddish white, and bluish white, associated with chlorite, in veins of quartz, traversing grey wacke; Pawtucket.

Steatite, 3 m. N. W. of Providence, on Hezekiah Olney's land.

Chlorite, in veins of quartz, traversing grey wacke, and grey wacke slate, at Pawtucket.

Shale, with vegetable impressions, overlaying
Anthracite, found in the race way, cut for the factory at Valley Falls, 2 m. N. of Pawtucket.

Sulphuret of Iron, cubic crystals, in the shale.

PORTSMOUTH.

Asbestos, in shale and anthracite.

Clay Slate.

Shale, with vegetable impressions.

Graphic Slate.

Anthracite. All abundant, N. and W. part of the town, $1\frac{1}{2}$ m. S. of Bristol ferry, and 9 m. N. from Newport. (*J. Stephens*.)

PROVIDENCE.

Fluate of Lime; narrow veins in grey wacke, of the variety clorophane, E. of the town; not abundant.

Quartz, common, in rolled pieces; and sometimes are found *Limpid Quartz*, in crystals, in the gravel hills; near.

Blue Quartz, in rolled masses and fragments, colored by chlorite.

Milky Quartz, fine specimens, sometimes on the surface, and in the diluvial hills.

Jasper, fine red, and spotted. One mass, supposed to weigh 25 lb. was found $1\frac{1}{2}$ m. N. E. from town; very fine.

Epidote.

Amianthus, in veins in graphic slate.

Hornblende, common, massive, in large boulders, E. from the town.

Serpentine, in rolled masses, rare. (Ed.) "Common serpentine, in the hill upon which the University stands. Its color is brown, with a yellowish cast, and is striped in some parts with a pale black." (*Sil.* 8.228.) The above locality was discovered between 30 and 40 feet below the surface, in digging Mr. John Smith's well, N. of Angell street. Veins of quartz embracing *Iron Pyrites* were found in a hard kind of rock, passing into this yellowish brown mineral, which was found in small quantity, and supposed to be serpentine. (*W. Greene*.)

Chlorite, earthy, with common quartz.

Clay Slate, underlying grey wacke, and near the surface, N. E. from the Episcopal church.

Graphic Slate, or black chalk, on Mr. S. Dorr's land, near Benefit street a few feet below the surface, and in rolled masses in the gravel hill, W. of Mill bridge, traversed by veins of amianthus.

Shale, with vegetable impressions, and *Anthracite* have been found in digging wells.

Micaceous Oxide of Iron, and

Brown Oxide of Iron, in rolled masses of quartz, &c.

Hematitic Brown Oxide of Iron; one or 2 fine specimens have been found detached, in the diluvial hills W. of Mill bridge; also in quartz.

Magnetic Iron Stone. This singular substance is a porphyry, iron constituting the base, and crystals of feldspar interspersed as usual in porphyry; it is found in rolled masses of various sizes scattered over the surface in this town, and about Cumberland hill; abundantly. It may be seen in place, 2 m. from Cumberland m. h. in an immense bed.

SCITUATE.

Red Oxide of Iron, abundant near the residence of the late Isaac Fisk, on the Plainfield turnpike, about 8 m. from Providence. (*T. A. Greene.*)

Smoky Quartz, in veins 6 inches wide, in sienite, 12 m. from Providence; also in veins in gneiss at the quarry 17 m. from Providence, and 2 m. southerly from Fish's tavern.

Calcareous Spar, in acute rhombs, interspersed in the grouped specimens of small, cubic pyrites, and small, black hexaedrons of mica, at the quarry.

Mica, crystallized, in small, regular, hexaedral crystals, on gneiss, and with pyrites on gneiss, at the quarry; beautiful specimens.

Sulphuret of Iron, in very small, cubic crystals, grouped, very beautiful; also in large, cubic crystals on gneiss, at the quarry.

Sulphuret of Molybdena, in gneiss, at the quarry, a few good specimens have been observed.

SMITHFIELD.

Granular Limestone occurs in extensive beds, 8 m. W. of N. of Providence; one called the "Dexter rock," $\frac{1}{2}$ a m. W. of Blackstone river. The other a little more than a m.

N. W. from this, and called the "Harris rock." Marble, white and clouded, has been wrought from these quarries. *Calcareous Spar*, in rhombic crystals, regular, and acute, at the Harris rock, and at the Dexter rock, in rhombic crystals; also in 6 sided, short prisms, terminated by 3, 4, and 6 sided pyramids, mostly yellowish, many specimens are of a gold color, sometimes white and transparent, frequently intermixed with crystals of quartz; many specimens appear beautifully frosted; abundant in veins of the limestone; Also in veins with quartz, traversing micaceous slate, left bank of Branch river, $\frac{1}{2}$ a m. from its mouth.

Rhomb Spar, in large masses; sometimes finely crystallized on limestone, in the Harris lime rock.

Dolomite; Harris lime rock, and Dexter rock.

Limpid Quartz, beautiful crystals, lining veins of quartz, which intersect the Dexter rock. The writer has one perfect crystal $6\frac{3}{4}$ inches long, and one inch in diameter.

Smoky Quartz, in small veins, various places, and more abundant 9 m. from Providence, on the road to Chepachet, near Andrew Waterman's tavern, some of which is distinctly

Tabular, in lamellæ about $\frac{1}{2}$ of an inch thick, applied to each other by their broader faces, easily separated, and brittle; some specimens are beautifully *Irised*. *Calc. Spar*, associated with chlorite, quartz, and mica; same place.

Yellow Quartz, crystallized, straw yellow, transparent, in veins in Dexter rock.

Arenaceous Quartz, on Woonsocket hill.

Chalcedony has been found $2\frac{1}{2}$ m. S. W. from Cumberland hill, and at the lime rocks; botryoidal, rare.

Nephrite, in veins and nodules, in the Harris lime rock.

Tremolite, fibrous or earthy, white, by some supposed to be arragonite. Harris rock.

Asbestos; Harris rock, rare.

Ligniform Asbestos, on Andrew Waterman's land, about one m. northerly from his tavern, which is about 9 m. from Providence, on the road to Chepachet, abundant.

Fasciculite, 1 m. N. E. from Woonsocket village, on mica slate, rare.

Serpentine, on Jenks's hill, about 5 m. from Providence, W. of the Smithfield turnpike, in a granitic hill, color dark green, with yellow spots, abundant, and in some other parts of the town, of an inferior quality.

Talc, silvery white, in masses, and in connexion with rhomb

spar, and with limestone, at the Harris rock. Also botryoidal and mammillary, on quartz, and on limestone, at the Dexter rock.

Talciferous Carbonate of Lime, in the Dexter lime rock; yellowish white, slaty, some of which has beautiful dendritic formations in it.

Green Talc, in veins, in coarse steatite,

Indurated Talc,

Chlorite, &c. in the road S. of Mr. B. Mowry's, about $\frac{1}{2}$ a m. W. from Blackstone river, and the "Cumberland mill," or Furnace factory, and a little more than one m. W. from Cumberland hill, beautiful and abundant.

Steatite, $\frac{1}{2}$ a m. E. by S. of the Dexter lime rock, near the Blackstone, on Mr. Nathaniel Spalding's land, constituting a considerable hill; it appears at the surface in several places; it has never been explored; some of it appears compact, and of fine quality.

Clay Slate, at Woonsocket falls, and on the banks of the Blackstone. A vein runs through the Dexter lime rock, and the W. side of the Harris rock is connected with clay slate.

Peat, 1 m. W. from Woonsocket village, on Daniel Remington's land, of good quality.

Sulphuret of Iron, in clay slate, at the Dexter lime rock.

Micaceous Oxide of Iron, in detached pieces of quartz.

Magnetic Oxide of Iron; octaedral crystals in chlorite slate, near the ligniform asbestos; rare.

Brown Oxide of Iron. Harris lime rock, &c. rare.

SOUTH KINGSTON.

Magnetic Iron Sand, abundant on Long beach, between Watch hill and Point Judith light, nearly S. from Little Rest. (J. Stephens.)

WARREN.

Clay Slate. (J. Stephens.)

WARWICK.

Cornelian. The writer found one fine specimen on the shore near Patuxet, in the gravel bank, and

Shale; one rolled mass, with fine vegetable impressions; same place.

Bog Ore, in nodules, on the bottom of Warwick pond; abundant. (Eddy.)

CONNECTICUT.

Sulphuret of Silver is said to have been found in this state.
(C.)

BERLIN.

Sulphate of Barytes, in lamellar rolled pieces in a rivulet,
(C.) below a mill dam.

Amethyst.

Prehnite.

Sulphuret of Zinc, yellow, with

Sulphuret of Lead, in a vein, which appears to traverse sandstone, or greenstone. (C.)

Quartz Geodes, in greenstone trap. (Sil. 5.41.)

Coal, in greenstone, on either side of a brook, in veins, in connexion with

Crystallized Quartz.

Pyrites; rare.

Chlorite, in greenstone.

Carbonate of Lime, colorless and crystallized, foliated, and in layers of different colors, and textures, i. e. agatized. (Sil. 5.44.)

Chalcedony,

Agates, and quartz crystals, in the valley of a brook W. of the m. h.

Shale, a bed in a ravine, $\frac{1}{2}$ a m. S. of the m. h.

Zeolite, fibrous and radiated in greenstone, E. of the m. h. (Sil. 5.45.)

Jet, imbedded with galena in sulphate of barytes, at More's mills. (Sil. 5.254.)

BETHLEHEM.

Sulphuret of Lead, foliated, granular, and fibrous, or striated.
(C.)

Fibrous Tremolite, very beautiful. (Sil. 1.354.) Beautiful graphic granite occurs in this town. (E.)

Laminated Feldspar, pearly white in Bethlehem. (Sil. 6.251.)

BOLTON.

Staurotide, at the Notch of the mountain, in large crystals, often forming the cross in mica slate, with Garnets. (C.)

BOZRA.

Tourmaline, and fine graphic granite. (Sil. 2.240.)
Garnet, near the Bozra factory, in granite. (W. Greene.)

BRIDGEPORT.

Octaedral Iron ; large, distinct crystals. (Sil. 5.41.)
Hornstone. (Hall.)

BRISTOL.

Native Copper, with the
Red Oxide of Copper, in a small vein. (C.)

BROOKFIELD.

Beryl, in granite.
Augite, white, in
Dolomite ; (C.) abundant, $\frac{1}{2}$ a m. W. of the village, with asbestos, serpentine, iron pyrites, &c.
Chlorite, abundant.
Magnetic Sulphuret of Iron, in granite, abundant, highly magnetic, decomposes rapidly in the air, and furnishes excellent copperas.
Sulphuret of Molybdena. (C.)

CANAAN.

Tremolite, abundant in granular limestone. (C.)
Sulphuret of Iron, crystallized in tremolite. (Sil. 1.354.)
Kaolin, abundant. (Sil. 8.53.)
Calcareous Tufa, at the falls. (Sil. 8.60.)

CANTON.

Actynolite ; brownish green. (C.)

CHATHAM.

Rose Red Quartz ; good specimens have been obtained.
Staurotide, in mica slate.
Beryl, $1\frac{1}{2}$ m. N. from Middle Haddam landing, and about $\frac{1}{2}$ a

m. S. W. from the cobalt mine hill, in course grained granite. Some crystals 4 inches in diameter, with

Schorl.

Coal.

Arsenical Iron, in the cobalt mine.

Arsenical Sulphuret of Iron, associated with arsenical cobalt.

Arsenical Nickel, reddish yellow, with a metallic lustre, associated with arsenical cobalt, in irregular veins, or disseminated in a hornblende rock.

Arsenical Cobalt, 5 m. S. E. from Middletown, disseminated in a rock composed principally of hornblende and actynolite, on the S. side of a hill.

Arsenate of Cobalt; peach blossom red, in crusts, or disseminated in feldspar. (C.)

Garnet, at the cobalt mine, in mica slate; handsome. (Sil. 6.222.) Also about $\frac{1}{2}$ a m. E. of Middle Haddam Landing, in a brook.

Actynolite, near the bank of the river, opposite the upper ferry in Haddam, in an enormous granitic vein, associated with black *Schorl*,

Magnetic Oxide of Iron, &c. (Sil. 6.227.)

Yenite, resembling hornblende. (Sil. 8.59.)

Sulphuret of Zinc, black jack, connected with arsenical cobalt, in mica slate, &c. at the cobalt mine.

CHESHIRE.

Sulphate of Barytes, in foliated masses, with quartz, sandstone, and the carbonates of lime and copper, and other varieties of barytes.

Fibrous Malachite, in small, but good specimens.

Pyritous Copper, with

Green Carbonate of Copper, and

Quartz, and

Carbonate of Lime, sulphate of barytes, and sandstone, all blended in the same mass, but perfectly distinct. (C.)

Mesotype.

Prehnite, good specimens. (S. J. Andrews.)

CHESTER PARISH. See SAYBROOK.

CORNWALL.

Smoky Quartz, crystallized.

Cyanite, in gneiss, with
Graphite, which occurs in considerable quantities. (C.)
Epidote is found with the cyanite and graphite. (Sil. 1.354.)
Hornstone, on the late Judge Matthews' farm. (Hall.)

DERBY.

Granular Limestone, often very white, with large folia, and frequently penetrated by crystals of
Tremolite.
Arsenical Sulphuret of Iron. (C.)

DURHAM.

Coal has been found in this town. (C.)

EAST HADDAM.

Rose Red Quartz; good specimens have been obtained.
Siliceous Sinter, in horizontal interstices in gneiss. Also in small, snow white, spherical concretions, incrusting mica slate.
Sulphuret of Molybdena. (C.)

EAST HARTFORD.

Staurolite, in large crystals, often forming the cross, in mica slate, with
Garnets.
Sulphuret of Antimony. (C.)

EAST HAVEN.

Amethyst.
Chalcedony, 3 or 4 m. from New Haven, imbedded in secondary trap, or occurring in loose masses; botryoidal, mammillary, or stalactical, often beautifully invested with crystals of quartz, sometimes forming geodes.
Agate, either loose or imbedded in secondary greenstone, with Chalcedony. These agates, either oval or conical, usually consist of bands of chalcedony and quartz, variously striped, or spotted, or interlaced with *Jasper*, *Carnelian*, and *Cacholong*. In the same rock occur
Geodes of Quartz, lined with small crystals of quartz, transparent, or amethystine, or smoky, or yellow, and sometimes spotted, or tipped with red jasper.
Analcime, with chalcedony and agates. (C.)

Magnetic Iron Sand, on the beach near the light house, in great abundance. (*Sil.* 6.232.)

ELLINGTON.

Coal, in friable
Clay Slate. (*Sil.* 6.63.)

ENFIELD.

Coal, (C.) in beds, in grey micaceous sandstone. (*Sil.* 6.63.)

FAIRFIELD.

White Copper Ore. (C.)

FARMINGTON.

Sulphate of Barytes, in lamellar rolled pieces, in a rivulet passing through Berlin and Farmington.

Amethyst. (C.)

Chalcedony, in greenstone. (*Sil.* 6.216.)

Prehnite; Farmington mountains, mammillary, botryoidal, crystalline. (*Hall.*) Prehnite occurs about 2 m. N. of the m. h. on the W. side of Talcot, or Farmington mountain, 10 m. W. from Hartford, in cavities of the greenstone, or among the detached fragments, both massive and crystallized; color varies from a rich grass green to green of lighter shades, occasionally blended with

Calcareous Spar, of a fine white, which gives additional beauty to the prehnite, which is very abundant, and in extraordinarily beautiful specimens. Prehnite occurs throughout this range of greenstone hills. (*E. N. Sil. Jr.*) Prehnite with calc, spar, and wacke. at the foot of Talcot mountain.

Wacke, perfectly well characterized, and very abundant, at the foot of the very lofty precipices, 2 m. N. of Monte Video, on the Talcot mountain, 10 m. W. of Hartford. (*Sil.* 6.51.)

GOSHEN,

Tremolite. (C.)

GRANBY.

Red Oxide of Copper, disseminated in sandstone, with a small proportion of

Green Carbonate of Copper, at a place known by the name of the Simsbury mine. (*Sil.* 6.206.)

HADDAM.

Cyanite, near the N. E. corner of Haddam, in the parish of Middle Haddam, in crystalline masses from 6 to 8 inches long, either loose or in mica slate. (C.) The foregoing locality is on the east side of the river, on the farm of a Mr. Selden. (Sil. 2.238.)

Pinite, in a micaceous rock, crystals sometimes several inches long, and considerably regular. Same place crystals 1 inch in diameter, occur in rolled masses of granite.

Chrysoberyl, in a vein of granite, traversing gneiss, in 6 sided prisms, and 6 sided tables. This granite is large grained, composed chiefly of

White Feldspar, (albite,) and grey quartz, and contains **Manganesian Garnet**, which are sometimes very large, 4 inches in diameter; also

Tourmaline,

Emerald, and white

Fibrous Talc. (C.) The above locality is at the N. end of Mr. Brainard's house, near the road, directly opposite the m. h. (Sil. 2.240.) Chrysoberyl has been found on the E. side of the river also.

Black Schorl, in loose blocks of granite; also in a vein of coarse granular quartz, traversing mica slate, (C.) $\frac{3}{4}$ of a m. S. westerly from the m. h. abundant on a hill in woods.

Feldspar, greenish and strongly translucent, (C.) $\frac{1}{4}$ m. westerly from m. h. containing schorl in small crystals.

Adularia, in gneiss, (C.) at the quarries, 1 m. S. from the m. h.

Siliceous Feldspar.

Beryl, in granite, which forms a vein in gneiss, (C.) some crystals 9 to 12 inches in diameter. Some have been found 4 m. N. from the centre of Haddam. (Sil. 6.222.) Abundant at the gneiss quarries S. of the m. h.

Epidote, 3 m. W. from the inn; it occurs massive, **arenaceous**, and in very fine crystals in a narrow vein, in a decomposed mica slate.

Actynolite, in the mica slate of this vicinity. (Sil. 2.240.)

Talc, enters into the composition of granite. (C.)

Ferruginous Oxide of Columbium, or tantalite, occurs in the same rock which contains the chrysoberyl, &c. (C. 782.) (Sil. 4.52, & 8.105.) (Also, *A. L. N. H. N. York*, 1.89.)

Hornblende, $\frac{1}{4}$ of a m. S. W. from the m. h. crystallized in coarse white, friable, granular quartz, abundant.

HAMDEN HILLS. See NEW HAVEN.

HARTFORD.

Antimonial Grey Copper, near, in the red sandstone formation.
Sulphate of Barytes, 2 m. from Hartford, penetrated by green and blue

Carbonate of Copper, in a vein traversing greenstone, which rests on argillaceous sandstone. (C.)

Wacke, at Gallows hill, near Hartford, lying between the greenstone and sandstone; also W. side of the Berlin ranges of greenstone. (Sil. 6.51.) The locality of sulphate of barytes is S. W. from Hartford, near a quarry, where may be found

Fibrous Carbonate of Lime, in the argillaceous sandstone, and dog tooth spar.

HARWINTON.

Cyanite, occurs in large and beautiful, blue and white crystals, or in crystalline masses, in mica slate.

Staurotide, in perfect crystals, in granite with cyanite.

Native Antimony, in broad plates, associated with the *Sulphuret of Antimony*. (C.)

HEBRON.

Graphite. (C.)

HUNTINGTON.

Fluate of Lime, 4 m. S. from the bismuth mine, parish of New Stratford, in a vein traversing white granular limestone in gneiss, and associated with quartz, mica, &c. sometimes in cubes, but usually massive. It emits a very pure emerald green light when heated, and is of the variety called chlorophane.

Beryl, in granite. (C.) One beautiful crystal, found in the chlorophane. (Sil. 5.254.)

Magnetic Sulphuret of Iron, in the vein which contains the native bismuth.

Micaceous Oxide of Iron, at New Stratford.

Sulphuret of Lead, foliated in a gangue of quartz, with native bismuth, and

Native Silver, which contains a little

Arsenic.

Sulphate of Lead, at Lane's mine, incrusting argentiferous galena, and is said to contain silver.

Native Bismuth, New Stratford, on Mr. Ephraim Lane's farm, 20 m. W. from New Haven, disseminated in a vein of quartz, in brilliant plates, or small lamellar masses, seldom more than an inch in diameter, associated with native silver, the sulphuret of iron and lead, and

Pyritous Copper, tungsten, and tellurium, (C.) and

Blende. (Sil. 1.316.)

Native Tellurium, at Lane's mine, associated with ferruginous oxide of tungsten, native bismuth, native silver, &c.

Yellow Oxide of Tungsten, the pulverulent variety forms a crust on the ferruginous oxide of tungsten, or occurs in its cavities. Both the massive and pulverulent often occur in the interstices, and upon the surface of the calcareous oxide of tungsten.

Calcareous Oxide of Tungsten, in quartz, and is associated with the yellow oxide of tungsten.

Ferruginous Oxide of Tungsten; it occurs both massive and in octahedral crystals, in quartz with native bismuth, native silver, &c.

Red Oxide of Titanium; large crystals near Lane's mine. (C.)

Alum, in decomposed mica slate. (Sil. 3.240.)

Sulphate of Barytes, white, foliated; New Stratford. (Sil. 5.255.)

Native Sulphur, and

Carbonate of Iron, at Lane's mine. (Sil. 6.210.)

Sulphuret of Antimony, at Mr. Lane's mine, incrusting, and partly filling up cavities in quartz, and is associated with sulphuret of iron. (A. L. N. H. N. York, 1.93.)

KENT.

Fuller's Earth, a saponaceous clay resembling fuller's earth, at the iron ore bed.

Scaly Red Oxide of Iron, in primitive rocks.

Red Hematite, same place.

Hematitic Brown Oxide of Iron occurs stalactical, mammillary, &c. It is contained in clay, which forms a bed in gneiss. (C.)

CONNECTICUT.

KILLINGLY.

Kaolin of superior quality was lately found 10 feet below the surface, in digging a well $2\frac{1}{2}$ m. E. from Westfield m. h.

LANE'S MINE. See HUNTINGTON.

LEBANON.

Oxide of Manganese, in small quantities. (C.) (?)

Schist, on the turnpike to Colchester, 1 or 2 m. from the Bozra factory. (W. Greene.)

LITCHFIELD.

Dolomite, in very beautiful white masses, fine grained, and resembling loaf sugar.

Milky Quartz, in rolled masses.

Ferruginous Quartz, in opaque, yellowish brown, 6 sided prisms, attached to an amorphous mass of the same variety.

Hornstone, associated with ferruginous quartz.

Corundum, dark greyish, blue, massive, and in 6 sided prisms, in an aggregate, composed chiefly of cyanite.

Cyanite, in large and beautiful blue and white crystals, or in crystalline masses, in mica slate, associated with quartz, talc, feldspar, mica, staurotide, and garnets. A detached, crystalline mass of cyanite was found in this town, supposed to weigh 1500 lb., containing

Talc,

Sulphuret of Iron, and corundum, and resting on mica slate.

Staurotide, in mica slate, presenting 6 sided prisms, either single or forming a cross (C.); very common, and very beautiful. (Sil. 1.353.)

Beryl, in granite, the crystals often well defined.

Garnets, with staurotide, in mica slate.

Epidote, in shining 6 sided prisms, with hornblende in graphitic granite, and sienite.

Tremolite, presenting fine specimens, usually connected with dolomite and quartz.

Augite, whitish, flat, 6 sided prisms, sometimes nearly 4 inches long, with diedral summits, in dolomite, sometimes with tremolite and quartz.

Actynolite, in bluish green, radiated masses.

Steatite.

Red Oxide of Titanium, sometimes reticulated on mica. (C.)

Smoky Quartz.

Petronilex, in rolled masses, with ferruginous quartz, containing veins of

Chalcedony, and hornstone, and geodes of quartz crystals, are common.

Common Opal has been found, though rarely.

Mica, green, white, and perfectly black, in blocks of granite.

Schorl, in rounded crystals, in all the granite, in radiating crystals on quartz, and in acicular crystals on mica slate.

Feldspar, common and beautiful, blue, white, and red, in rhomboidal fragments. (*Sil.* 1.353.)

Hornblende; the lamellar and slaty varieties are very common.

Chlorite, on quartz, with talc.

Porcelain Clay, in small quantities.

Sulphuret of Iron, in mass, is in great quantities, and

Sulphate of Iron, on the surface of the ground, near it, near Mount Prospect.

Native Copper; a small quantity was found in a stone. (*Sil.* 1.354.)

Andalusite, in 4 sided prisms, with granular quartz. (*Sil.* 6.176.)

Prismatic Mica. (*Sil.* 6.220.)

Fetid Quartz, well characterized, of a dark greyish blue, and of a pure white.

Pinite, associated with quartz, mica, and oxide of iron.

Zeolite, in reniform masses of minute fibres, and in fascicular groups of fibrous crystals,—in a vein in mica slate. (*Sil.* 6.251.)

MERIDEN.

Analcime. (*Sil.* 6.224.)

MIDDLE HADDAM. See HADDAM and CHATHAM.

MIDDLETOWN.

Calcareous Spar, at the lead mine, mixed with sulphurets of lead, zinc, &c.

Fluate of Lime, in a vein, accompanied by the sulphuret of lead, zinc, and iron.

Bituminous Carbonate of Lime, (*bituminous marl slate.* *Sil.*

- 6.63.) black, and traversed by veins of white calcareous spar, and
Satin Spar, and presents distinct impressions of fish; also
Bituminous Shale, with impressions of fish.
Coal, and
Pyrites, at Westfield, near Middletown; (C.) about 6 m. N. W. and 1 m. N. from Westfield m. h. in a brook, now abandoned, and specimens very rare. (*Miner.*)
Arsenical Sulphuret of Iron.
Sulphuret of Lead, where a mine was formerly opened, and
Sulphuret of Zinc, and
Sulphuret of Iron, (C.) $1\frac{1}{2}$ m. S. E. near the river, E. of Butler's creek, specimens very rare.
Fetid Quartz, found abundantly along Connecticut river, through the whole distance from this town to Bellows falls, in loose, rolled masses. (*Hall.*)

MILFORD HILLS.

- Calcareous Spar*, 5 m. W. from New Haven, in laminated masses, penetrated with chlorite, and in rhombic crystals at the marble quarry, 7 m. W. from New Haven.
Granular Limestone; these calcareous strata extend northerly 9 or 10 m. from Milford harbor, leaving the coast, and apparently terminating about 2 m. back of New Haven, traversed by veins of calcareous spar, and magnesian carbonate of lime, and toward the E. and N. extremities is associated with serpentine. The texture of the beautiful
Marble, quarried at this place is very fine granular; some varieties exhibit clouds of a brilliant orange, or gold yellow, associated with
Green Serpentine, and dove colored lime stone, and constitute a very beautiful marble. It receives a high polish, and endures the action of fire.
Dolomite, mixed with quartz and tremolite.
Phosphate of Lime, in imperfect, pale green crystals in granite, near New Haven.
Epidote, in primitive greenstone, in veins or amorphous masses, sometimes in radiated crystals in a vein of calcareous spar, traversing greenstone slate.
Tremolite, all the varieties of which occur with dolomite and quartz.

Asbestos, chiefly in serpentine, and very abundant. The *Amianthus* is sometimes nearly as fine as that of Corsica.

The common variety is whitish green, with dolomite and granular limestone, adhering, and bitter spar and magnetic iron disseminated.

Sahlite, olive green, foliated, and almost prismatic in the yellow serpentine marble, (C.); Westfield, 3 m. W. from New Haven, on the left of the road to Derby; abundant.

Precious Serpentine, near New Haven, imbedded in nodules or irregular masses in primitive limestone, and receives a very high polish.

Chlorite penetrates quartz and calcareous spar.

Slaty Chlorite, in layers about $\frac{1}{4}$ of an inch thick, between primitive marble and primitive greenstone; soft, unctuous, and frequently stained red.

Magnetic Oxide of Iron, and

Chromate of Iron, forming black clouds and spots, are disseminated through this marble, and also the green and

Yellow Serpentine, which is much mixed with the marble, and greatly increases its beauty. When it contains green colors it belongs to the variety usually called

Verd Antique, and is the *ophicalce veinée* of Brongniart. (C.)

NEW HAVEN.

Flint, near, in rolled masses.

Jasper, near, in rolled fragments.

Cyanite, in small, imperfect crystals in mica slate, near.

Staurotide, on Beacon hill, 14 m. from New Haven, in mica slate, with

Garnets. (?)

Pitchstone, near.

Prehnite, near, in secondary greenstone, which also contains zeolite, in veins or in nodules, with a radiated structure, sometimes with crystals on the surface. At the Pine rock it forms perpendicular veins, rarely more than $\frac{1}{4}$ of an inch in thickness.

Zeolite, near, in horizontal veins, in secondary greenstone, or incrusting the surface of the stone; it is in crystals, or radiated masses, or presents the mealy variety; at the Pine rock.

Laumonite, near, in greenstone.

Actynolite, near, in serpentine, generally radiated.

Serpentine, near.

Steatite, near.

Chlorite, near, penetrating quartz and calcareous spar.

Slaty Chlorite, near, in thin veins in secondary greenstone; and these veins are divided by still thinner veins of quartz, and in the direction of the layers.

Clay Slate, 5 or 6 m. N. W. in primitive strata, sometimes alternating with mica slate.

Native Copper, a mass weighing about 90 lb. was found, many years since, on Hamden hills, near New Haven, adhering, in part, to the surface of the rock on which it rested, and even penetrating its fissures. A mass of native copper weighing about 6 lb. has been more recently found within 3 or 4 m. of where the 90 lb. piece was discovered, and 12 m. from New Haven, and $\frac{1}{2}$ a m. W. from the Hartford turnpike, opposite the town of Wallingford, in alluvial soil, exhibiting the rudiments of large, octaedral crystals of copper on its surface, which is partly incrustated by the

Green Carbonate of Copper; and its cavities contain the *Red Oxide of Copper*.

Sulphuret of Copper, near.

Pyritous Copper, in the greenstone mountains, which extend northerly from New Haven, through Cheshire, Simsbury, &c. with native copper and the red oxide of copper.

Red Oxide of Titanium, near. (C.) See Milford hills.

NEW LONDON.

Ferruginous Oxide of Columbium, near. (C.)?

NEW MILFORD.

Granular Limestone, forming beds in gneiss.

Asbestos.

Carbonate of Iron, in gneiss, whose structure is very perfect. The ore is abundant in a gangue of quartz. This appears to be the only locality in the United States in which carbonate of iron occurs in quantity. (C.)

NEW STRATFORD. See HUNTINGTON.

NORTHFORD.

Fetid Carbonate of Lime, in a secondary trap formation; it is

a coarse grey lime stone, extremely fetid by percussion, and burns to excellent lime. (C.)
Staurotide, in mica slate; abundant. (Sil. 6.219.)

OXFORD.

Granular Limestone, often very white, with large folia, and frequently penetrated by crystals of
Tremolite. (C.)
Chlorite Slate. (Sil. 6.27.)
Limpid Quartz, and
Smoky Quartz, crystallized; good specimens have been found.
Staurotide,
Garnets, and
Red Oxide of Titanium, in large, geniculated crystals, in mica slate. (A. S. Monson.)

PETTYPAUG. See SAYBROOK.

PRESTON.

Alum, formed in decomposed mica slate. (Sil. 3.240.)

READING.

Granular Limestone, often very white with large folia, and frequently penetrated by crystals of
Tremolite.
Garnet, in well defined trapezodrons, from the size of grape shot to that of musket balls, in mica slate. (C.) This locality is on the S. E. side of a hill, or precipice, covered with red cedar, $1\frac{1}{2}$ m. S. of the Congregational m. h. and about $\frac{1}{2}$ a m. N. W. of the junction of the two largest branches of the Saugatuck river, 30 rods W. of a carding machine and a saw mill, very abundant and beautiful. (Sil. 3.241.)

SALISBURY.

Hematitic Brown Oxide of Iron, associated with the other varieties of the brown oxide. It is often in stalactites of uncommon beauty, whose exterior presents a strong gloss. It is sometimes invested with a delicate, sooty coat which appears to be *Oxide of Manganese*. The iron ore is embraced in clay which forms a bed in the side of a hill, of moderate elevation. This mine has been open about 70

years, and the ore is still very abundant, and is said to yield some of the best iron in the United States. The Clay of this bed exhibits various colors, and will undoubtedly furnish valuable pigments.

Granular Argillaceous Oxide of Iron. (C.) No variety of argillaceous oxide of iron is found here but the common, which has a compact structure, color yellowish, fracture conchoidal. (Sil. 8.260.)

Staurotide. (Sil. 8.40.)

Fibrous Tremolite; the masses, whose fibres are sometimes 2 feet long, contain parallelepipeds of

Sulphuret of Iron. (Sil. 8.46.)

Nephrite, somewhat lamellar, and exhibits imperfect prisms by fracture. (Sil. 8.60.) Nephrite is found one mile east of the m. h.

Laminated Calcareous Spar, abundant.

Bitter Spar, in

Carbonate of Lime.

Calcareous Tufa, at the falls of the Housatonic; abundant.

Dolomite, abundant, containing tremolite.

Alum, in yellowish white concretions, and efflorescing on mica slate; abundant, often very pure. Nearly all the varieties of

Quartz, in abundance, and quartzose breccia, and grey wacke.

Jasper, abundant, black, red, yellow, &c. in small, rolled masses.

Mica, black, white, and yellow; abundant.

Black Schorl, in quartz.

Tourmaline, brown and yellow, in quartz and carbonate of lime; abundant.

Feldspar, compact variety, in mica slate, and detached masses.

Scapolite, near the falls of the Housatonic.

Beryl, $1\frac{1}{4}$ m. N. of the m. h. beautiful small crystals associated with quartz, hornblende, augite, epidote, massive garnets, &c.

Garnet, perfect crystals; also in granular, amorphous masses of a reddish color, and staurotide; both abundant in mica slate.

Epidote, in compact masses, and crystallized, associated with sulphuret of iron, augite, quartz, and hornblende; abundant.

Augite, white, abundant.

Hornblende, lamellar, slaty, and fibrous, surface ferruginous

brown, in veins traversing quartz, and in fibrous groups, constituting the *fasciculite* of Mr. Hitchcock.

Talc, green and white, in quartz and augite; also indurated with curved layers.

Potter's Clay, abundant in nearly every part of the town.

Sulphur, efflorescent on mica slate.

Petroleum, on stagnant waters, giving them an irised appearance.

Graphite, associated with sulphate of iron, disseminated in a mixture of calcareous lime and mica slate in a compact form, of good quality, and abundant; also in all the furnaces, in irregular crystals, and scaly masses.

Sulphuret of Iron, mostly in cubes, abundant, and in amorphous masses; also granular, in limestone, quartz, and mica slate.

Magnetic Oxide of Iron, crystallized, and massive, in cubes and octaedrons; abundant, in mica slate.

Ochrey Brown Oxide of Iron; abundant at the ore bed.

Sulphate of Iron, on the summit of a high hill, (Barrue Monteth,) $\frac{1}{4}$ a m. E. of the m. h., abundant.

Sulphuret of Lead, in thin laminæ, in limestone, rare.

Zinc, white oxide? at the iron ore bed.

Red Oxide of Titanium, in small 6 sided prisms, abundant in the mica slate, forming the walls of the ore bed; also in large prisms in quartz and augite. The above named minerals are found so common in Salisbury, that the precise spot need not be pointed out. (*Charles A. Lee.*)

Granular Limestone, in beds in mica slate.

Magnesian Carbonate of Lime; abundant.

Fetid Carbonate of Lime occurs in plates, rhombs, &c. abundant.

Common Quartz, crystallized and massive.

Limpid Quartz, in alluvial soil in prisms of considerable size, sometimes in geodes in common quartz.

Smoky Quartz, in amorphous masses; best specimens are found in veins in mica slate, of considerable thickness, and often exhibit a beautiful play of colors.

Yellow Quartz, in rolled masses.

Rose Red Quartz, in detached pieces, color of different shades, tinged with yellow.

Irised Quartz, rare; colors produced by fracture, and a coat of metallic oxide.

Milky Quartz, common in large masses.

Granular Quartz occurs in masses of considerable size.

Many of the preceding varieties are cellular.

Ferruginous Quartz, amorphous; beautiful specimens of an ochrey yellow, and deep red color are associated.

Fetid Quartz, very abundant, resembles the common quartz, tinged with grey; very fetid.

Siliceous Sinter, abundant, investing the surface of hornstone in botryoidal concretions.

Hornstone, in amorphous masses.

Wacke, in large blocks, scattered throughout this region, and Berkshire Co. resembles that found in Columbia Co. N. Y.

Zoisite is not uncommon.

Baikalite, and all the varieties of tremolite, abundant in dolomite. The baikalite is often very beautiful, the crystals radiating from a centre, several inches in length, of a pearly lustre, sometimes tinged with yellow.

Nephrite, of Sil. 8.60. is ascertained by Prof. Dewey to be augite; it occurs amorphous, and in tabular and 6 sided prisms, of several inches in length, associated with epidote, graphite, &c. and contains red oxide of titanium.

Actynolite, in large grey masses, associated with augite, mica slate, and graphite.

Chlorite, massive, connected with quartz.

Clay Slate, in small fragments; not common.

Hepatic Sulphuret of Iron; abundant in quartz.

Specular Oxide of Iron abounds in shining plates, in quartz.

Oxide of Manganese; the compact ore, at the iron ore bed, and in the N. part of the town. (Sil. 8.255, to 261.)

Cummingtonite, discovered by C. A. Lee. It is well characterized, though less beautiful, than that which is found at Cummington and Plainfield. (J. Porter.)

SAYBROOK.

Epidote, crystallized.

Apophyllite; near.

Actynolite.

Anthophyllite. This rare mineral is said to have been found near this town.

Chlorite, in small crystals.

Sulphuret of Molybdena, a small distance northerly from Pet-

typaug m. h. in a vein of quartz traversing gneiss, (C.) $\frac{1}{2}$ a m. E. of the Middletown turnpike, near the house of the Widow Pratt, on the first road on the right hand, above the turnpike gate. (Sil. 1.242.)

Sillimanite. This mineral, previously called anthophyllite, is of a dark grey color, passing into clove brown. It occurs in rhomboidal prisms. It has but one cleavage, which is parallel to the longer diagonal of the prism. The sides and angles of the crystals are frequently rounded. It is harder than quartz,—found in a vein of quartz penetrating gneiss. (Sil. 8.113.) This locality is on the turnpike leading from Saybrook to Middletown, not far from $2\frac{1}{2}$ m. beyond the locality of molybdena, in the parish of Chester, on the left hand of the path, in a flat rock which is chiefly mica slate, a few rods S. of the Post Office, which is kept in a room of Denison's tavern, near a small stream running into the Connecticut,—crystallized in veins of quartz. (Sil. 8.195.) The writer is informed that the above mineral was previously named in Europe, and has been since known there by the name of *Mc Clellanite*.

SHARON.

Zircon, in detached pieces of quartz, in 4 sided prisms, terminated by pyramids, dark brown color, and rarely exceeding $\frac{1}{2}$ an inch in length.

Graphite, strongly resembling molybdena. (C.)

SIMSBURY.

Prehnite, near ; between this and Wintonbury it is abundant in mammillary masses, either loose or imbedded in greenstone ; sometimes it lines the whole internal surface of cavities in greenstone, and is associated with

Crystallized Carbonate of Lime.

Sulphuret of Copper, near

Pyritous Copper, with

Native Copper, and the

Red Oxide of Copper, are found in the greenstone mountains, which extend from New Haven through Cheshire, Simsbury, &c. (C.)

SOMERS.

Coal. (Sil. 3.248.)

SOUTHBURY.

Rose Red Quartz, of a delicate color, and forming an insulated mass, (C.) 4 m. S. E. from Smith's inn, and about 3 m. S. W. of the m. h. This rose quartz forms a bed in granite.

Staurolite, crystals crossing at right angles, (Sil. 5.41.) $3\frac{1}{2}$ m. S. W. from Smith's inn.

Amethyst, crystallized, color uniform and very beautiful, (Sil. 6.250.) 1 m. W. from Smith's inn ; rare.

Chalcedony, of a beautiful blue, covered frequently by botryoidal concretions of

Cacholong.

Common Opal, of an inferior quality.

Agatized Wood. It is principally hornstone ; its cavities are lined with minute quartz, crystals and layers of chalcedony, 3 m. S. W. from Smith's inn ; abundant.

Agate, in nodules composed of layers of blue and white chalcedony, which layers are principally incrustations of a solid nucleus of quartz, and are often quite handsome. (Sil. 6.250.)

Prehnite, occasionally found, 2 m. N. W. from Smith's inn.

Fibrous Carbonate of Lime, in

Bituminous Limestone, (Sil. 6.251.) 3 m. S. W. from Smith's inn ; abundant.

Mineral Caoutchouc, in veins in satin spar, or fibrous limestone, which forms layers running parallel with, and lying between those of

Bituminous Slate, or Shale, which contains small veins of *Coal*, (Sil. 6.370.) 3 m. S. W. from Smith's inn ; abundant.

Fetid Carbonate of Lime ; extremely fetid by percussion ; abundant, same place. In South Britain Parish.

Crystallized Quartz, 1 m. W. from Smith's inn.

Jasper, red, spotted, brown and black ; also chalcedony, agate, common opal, and prehnite are occasionally found on the diluvial hills.

Mica, Prismatic, and green in different places ; abundant.

Beryl, 2 m. S. from Smith's inn ; rare.

Sulphuret of Iron, $3\frac{1}{2}$ m. S. W. from Smith's inn, in South Britain Parish ; rare. (A. L. Smith.)

SOUTHINGTON.

Sulphate of Barytes, forming in part the gangue of a vein of

CONNECTICUT.

111

Sulphuret of Lead, which is associated with *Pyritous Copper*. The barytes often presents the crested variety; the same vein contains numerous, shining, black spots of

Coal, enveloped in a white gangue of barytes and quartz. (C.)

This locality is on what is called the Clark farm.

Bituminous Shale, embracing veins of coal on the land of Roswell Moore, Esq. about midway between Hartford and New Haven. (Sil. 1.240.)

Yellow Blende, and

Crystallized Carbonate of Lime. (Sil. 5.41.)

Common Chalcedony, in greenstone. (Sil. 6.216.)

Hornstone, in greenstone. (Sil. 6.218.)

SUFFIELD.

Coal, bituminous, in thin veins in rocks of slate and argillaceous sandstone on the banks of Suffield river. It is much intersected by thin veins of crystallized

Calcareous Spar. (Sil. 1.239.)

TALCOT MOUNTAIN. See FARMINGTON.

TOLLAND.

Staurotide, in large crystals, often forming the cross, with *Garnets*, which are found here nearly rose red, and remarkably transparent, in mica slate

Epidote; olive green.

Graphite, disseminated in rolled masses of granite and gneiss. (C.)

TORRINGTON.

Smoky Quartz, in regular crystals. (C.)

TRUMBULL.

Magnetical Pyrites, abundant in the bismuth vein. (Sil. 1.49.)

WALLINGFORD.

Amethyst. (C.)

WASHINGTON.

Granular Limestone, forming beds in gneiss. Marble, quarried here is white, highly crystalline, sometimes large grain-

ed, and sometimes so fine grained that the mass resembles loaf sugar. Some of it belongs to the variety called *statuary marble*.

Argentine, in primitive limestone.

Dolomite.

Limpid Quartz. A mass of transparent quartz was found in this town, now in the cabinet of Yale College, which appears to be a fragment of an immense crystal, and probably weighs between 200 and 300 lb.

Garnet, in dodecaedrons in mica slate.

Epidote, in olive green prisms, with rounded edges, associated with feldspar.

Tremolite, both in dolomite and granular limestone; in flat, prismatic crystals, or in very beautiful, fibrous, and radiated masses, with the aspect of white silk.

Asbestos, the common variety, and

Amianthus.

Augite.

Kaolin, in small quantities. (C.)

Plumose Mica. (Sil. 6.251.)

WATERBURY.

Alum, in decomposed mica slate; abundant. (Sil. 3.240.)

WATERTOWN.

Granular Limestone; beds in gneiss and mica slate.

Cyanite, in loose masses of granite, with

Garnets.

Mica, radiated or *plumous*. (C.) Very beautiful, and abundant in very fine *graphic granite*, 3 m. W.

Alum, abundant on mica slate.

Dolomite, and granular limestone, 4 m. on the turnpike to Plymouth.

Limpid Quartz, massive and crystallized, 2 m. N.

Chalcedony.

Hornstone.

Agate, beautiful specimens.

Zeolite, radiated.

Bladed Tremolite, in dolomite and granular limestone.

Hornblende, massive. (A. S. Monson.)

Red Oxide of Titanium. (C. A. Lee.)

CONNECTICUT.

113

WESTFIELD. See MIDDLETOWN.

WEST HAVEN.

Slaty Chlorite, near. It forms extensive strata, sometimes almost passing into

Clay Slate; but at the beach 1 m. below West Haven, it is decidedly chlorite slate, and abounds with

Magnetic Oxide of Iron, in minute, octaedral crystals.

Iron Sand, on the beach which forms the margin of the sea-shore. It is highly magnetic, uncommonly pure, and has very obviously proceeded from the disintegration of the chlorite slate contiguous to the beach; abundant. (C.)

WESTON.

Garnet, in large, perfect, dodecaedral crystals, in mica slate. (C.)

WOODBIDGE.

Flint, in masses, penetrated by white veins and spots of *Calcareous Spar*. (C.)

Fetid Quartz has been found in several places from this to Bellows Falls in N. H., a distance of 150 m., in loose, rolled masses. (Sil. 6.215.)

Grey Limestone, of a slaty structure, associated with trap rocks, on the turnpike from New Haven to Litchfield, 5 m. from Woodbridge.

Sulphuret of Iron, in greenstone slate. (A. S. Monson.)

WOODBURY.

Agate, in secondary greenstone.

Mica, violet.

Prehnite, in mammillary, botryoidal, and almost globular masses, of a delicate green, in secondary greenstone, very abundant.

Stilbite, well characterized in secondary greenstone.

Magnetic Sulphuret of Iron, near, in gneiss (C.); 24 m. N. of New Haven.

Amethyst. (Sil. 6.250.)

Plumose Mica. (Sil. 6.251.)

Calcareous Spar; fragments at the prehnite locality. (A. S. Monson.)

NEW YORK.

ALBANY.

Basanite, a green variety occurs connected with
Clay Slate, at "Crystal hill," 3 m. below Albany. (C.)
Sinople Jasper, (red ferruginous quartz) occurs in this Co. (E.)
Calcareous Sinter.
Calcareous Tufa.
Limpid Quartz, crystallized.
Bituminous Shale. (Webster.)
Course Heliotrope, in a bed of considerable extent, 3 or 4 m.
 below the city. (C. U. Shepard.)

AMENIA.

Sulphuret of Lead. (C.)
Iron Ore; beds of iron ore are found, nearly parallel with
 the W. boundary of Mass. Beds of this ore are found on
 the same line N. of Bennington, at least to Brandon, Vt.
 and southward to Amenia. (Sil. 8.30.)

AMSTERDAM.

Calcareous Tufa. (Webster.)

ANCRAM.

Sulphuret of Lead; the ore is very rich.
Oxide of Manganese, near. (C.)
Ancramite, or *Green Oxide of Zinc*, a new and rich ore, discovered in the foundation of an old house; also in the old walls of the furnace, erected in 1744. (Sil. 5.235, & 399.)
 This new ore is cadmia, an artificial product of the furnace, and is still formed at the iron works near Salisbury. (J. A. N. S. P. 2.289.) The lead mine lies in the S. E. part of the town in a hill of
Clay Slate, and transition, or
Metalliferous Limestone; some of the slate is glazed like that of Troy, and closely resembles bituminous shale. The galena occurs in a vein nearly vertical. It is argentiferous. It contains imbedded an abundance of clear, perfect

Quartz Crystals, often in small geodes. Besides galena the following minerals occur:—

Sulphate of Barytes, in veins of considerable thickness, in the argillite and limestone—the concretioned, granular, and compact. In some places it forms the gangue for the galena.

Milky Quartz, often beautifully tinged with malachite in dendritic forms.

Radiated Quartz, associated with copper, blende, and galena.

Fetid Quartz forms a gangue for the blende.

Clay, of a greyish color, from the decomposed slate.

Pyritous Copper, abundant, mostly massive, sometimes in small regular crystals, connected with the blende; it is sometimes a bluish color, which is the

Black Copper of Jameson.

Sulphuret of Iron, in small cubes in the argillite, and also amorphous. (*Sil.* 8.250.)

Molybdate of Lead? in small, tabular crystals, rare.

Sulphuret of Zinc; brown is most abundant, yellow not uncommon, lustre splendid and metallic, generally associated with quartz. (*Sil.* 8.249.)

Hematite. (*Webster.*)

ANTHONY'S NOSE.

Phosphate of Lime, asparagus stone, in sulphuret of iron.

Phosphate of lime, under some of its varieties, is found in most of the mines of magnetic iron in New York; it is often in yellowish white, or reddish grains.

Hornblende, in large tabular masses, with pyrites and phosphate of lime.

Hepatic Sulphuret of Iron, in large quantities, mingled with *Common Pyrites*, and phosphate of lime.

Red Hematite, a few m. S. from Ticonderoga; it occurs mammillary, botryoidal, &c. (C.)

Sulphate of Barytes,

Calcareous Spar, and

Asbestos, are frequently found in this vicinity. (*Sil.* 5.28.)

ARGYLE.

Satin Spar. (*Webster.*)

AURORA.

Calcareous Sinter, concretioned. (*Webster.*)

BAKER'S FALLS.

Crystallized Calcareous Spar, in veins, inlaid in a *Black Slate*, which effervesces with acids, forming a striking feature, both by their contrast of color, and by their zigzag windings. (*Sil.* 4.42.)

Marl, containing planorbis and helix. (*Webster.*)

BALLSTON.

Carbonic Acid, contained in the water of the springs, 100 cubic inches of water contain about 100 cubic inches of gas. (C.)

Amianthus, *Quartz*, and

Graphite. (*Webster.*)

BARNAGAT.

Metalliferous Limestone, near the N. side of the Highlands, of a bluish grey color, somewhat granulated, and often traversed by veins of white

Calcareous Spar. It is often cellular, and contains numerous geodes, lined with crystals of quartz. The great sloop lock in Troy, called Schuyler's lock, is built of this lime rock. (*Sil.* 5.234.)

BATAVIA.

Fetid Carbonate of Lime. (C.)

BATH.

Sulphuret of Hydrogen, issuing from a spring, opposite Albany. (*Sil.* 8.31.)

BERN.

Compact Limestone, at Foxen-kill, containing shells, and embracing

Hornstone, usually in layers, which are sometimes of considerable extent. (C.)

BETHLEHEM.

Calcareous Spar, in

Compact Limestone.

Stalagmite, in parallel layers on the bottom of a cavern.

Brown Spar, in a cavern.

Marl, containing from 40 to 85 per cent. of carbonate of lime, and embracing the *voluta* and *helix*.

Hornstone, near the caverns, in compact limestone, containing shells. (C.)

Siliceous Slate. (Sil. 5.269.)

Calcareous Sinter, in a cave. Lenticular crystals of calcareous spar.

Quartz Crystals.

Striated Quartz.

Flint.

Green Jaspery Slate ?

Hornstone.

Anthracite.

Bog Iron Ore. (Webster.)

BLACK RIVER.

Fetid Carbonate of Lime, near. (C.)

BLACK ROCK.

Limestone, imbedding

Flint, which is also found at the Seneca prairies. (C.)

BRIGHTON.

Fluate of Lime, in cubical crystals, transparent and white, with a slight tinge of blue, imbedded in

Black Fetid Limestone, forming a pleasing contrast, in the bottom of the great Western canal, on the east shore of Genesee river. (C.)

Pearl Spar, in fetid limestone.

Sulphuret of Zinc, in fetid limestone. (Webster.)

BRONX CREEK.

Zeolite, in an aggregate of epidote, hornblende, quartz, &c. (C.)

Woodstone.

Brown Tourmaline, in feldspar.

Coccolite.

Kaolin, in granite.

Arsenical Sulphuret of Iron.

Sulphuret of Molybdena.

Red Oxide of Titanium, in quartz. (Webster.) See West Farms.

BROOKLYN.

Agate, on East river, abundant. (C. A. Lee.)

BUFFALO.

Pyritous Shale, or pyritiferous rock, with thin, horizontal layers of

Bituminous Coal,

Alum,

Sulphate of Iron,

Sulphate of Magnesia, (epsom salts,) and immense quantities of *Iron Pyrites*. Thousands of petrifications may be seen in it on the S. shore of lake Erie, 16 m. from Buffalo, which consist wholly of iron pyrites. This rock extends from a considerable distance E. of the S. end of Cayuga lake to lake Erie, and many miles along the S. shore of the latter lake, (Sil. 8.197.)

CALAIS.

Magnetic Oxide of Iron. (Hall.)

CALDWELL.

Smoky Quartz. (Webster.) See George lake.

CAMBRIDGE.

Smoky Quartz, amorphous.

Sulphuret of Lead. (Hall.)

CAMILLUS.

Compact Limestone, or argillo-ferruginous limestone.
Sperry Gypsum. (Webster.)

CANAAN.

Tabular Quartz.

Limestone.

Siliceous Limestone.

Quartz Crystallized.

Clay Slate.

Sulphuret of Lead, fine steel grained, in the S. part of the town, in limestone. (Sil. 5.21.)

Peat. (Sil. 8.54.)

CANAJOHARIE.

Lamellar Sulphate of Barytes,

Brown Spar,

Quartz Crystals, with pyramids on each end,

Stalactitic Quartz,
Chalcedony,
Brown Hornstone, and pearly hornstone,
Agate, in large course masses,
Petrosilex,
Anthracite,
Green Carbonate of Copper,
Sulphuret of Lead, and
Sulphuret of Zinc, are found in transition sand rock, which crosses the canal in this town and in Florida, 10 m. W. of Schenectady, and W. of the Little falls in Herkimer Co. It runs in a N. E. and S. W. direction.
Transition Limestone, containing numerous petrifications, every where accompanies the before mentioned sand rock. (Sil. 3.196.)

CANASERAGA.

Gypsum, crystallized, in 6 sided prisms. (*Webster.*)

CANTON.

Compact Red Oxide of Iron. (C.)

CARLISLE.

Fibrous Sulphate of Barytes, in horizontal layers, or veins, traversing a soft

Clay Slate, 34 m. W. from Albany. (C.) This locality is about 8 m. in a N. W. direction from the court house, 3 m. W. of the Schoharie Kill, and 3 m. S. W. from Sloan's village, in the N. E. face of a hill which crosses the farms of Jacob Dickinson, Andrew Griffin, and Abraham Mosier. (Sil. 2.174.)

Limestone, for water cement.

Sulphuret of Lead, with
Sulphuret of Zinc, yellow. (*Webster.*)

CARTHAGE.

Chalcedony is found among the loose masses of rock below the Genesee falls. (Sil. 3.235.)
Sulphate of Magnesia. (*Webster.*)

CATSKILL.

Calcareous Spar, in slightly acute rhombs, sometimes transparent, in veins traversing

Compact Limestone.

Fibrous Limestone; when polished, it resembles the satin spar.

Agaric Mineral, in thin, friable crusts, attached to secondary limestone and

Marl, and sometimes in the cavities of shells.

Alum, 12 m. W. from Catskill, where it incrusts a crumbling rock, in which it is also disseminated. Also on Catskill mountain, in argillaceous sandstone, extending 4 m. N. from the Clove passage; also in the same mountain S. W. from Cairo, where it occurs stalactical. (C.) Also strongly impregnating a small spring, during winter and spring, which issues from a ledge of clay slate, on the N. side of the mountain, which rises immediately N. of Kaaterskill cove, and about a $\frac{1}{4}$ of a m. from Mr. Absalom Smith's. The water on arriving at the surface of the rock, deposits the alum in the form of powder, which is collected and employed without further preparation, as a substitute for imported alum. (Sil. 4.249.)

Crystallized Quartz occurs at Diamond hill in yellowish clay, between layers of grey wacke, which alternates with

Clay Slate. The crystals of quartz, some of which weigh 2 or 3 lb. are very short 6 sided prisms, terminated by pyramids, and sometimes contain veins or layers of clay, and frequently embrace cavities containing a liquid, a bubble of air, and some black or brown particles. (C.)

Flint,

Hornstone, and

Pitchstone, (which is more abundant than the two former,) on the hill between the town and the Hudson, in veins on the surface, or in veins in

Wacke, which is the principal rock in this vicinity. (Sil. 2.13.)

Calcareous Tufa, in extensive beds and rocks, deposited by streams issuing from caverns in limestone hills in this vicinity; also several beds of rich marl. (Sil. 3.236.)

Sulphur, in the fissures of the rocks, where alum occurs.

Malachite, about 2 m. E. of the mountains, with quartz and *Sulphate of Barytes*.

Specular Iron, in small quantities in detached masses of quartz. (Sil. 4.250.)

Sulphate of Lead.

Sulphate of Iron, and lenticular crystals of calcareous spar, near Catskill. (Sil. 5.266.)

CAYUGA CO.

Compact Limestone, for water cement, (C.) or argillo-ferruginous limestone. (Sil. 3.230.)

CAYUGA LAKE.

Gypsum, near; several thousand tons are annually exported from this vicinity to Pennsylvania.

Laminated Selenite, and

Fibrous Gypsum, are associated with the more common variety, and the color of this selenite is often very dark. (C.)

CELERON ISLAND. See ERIE LAKE.

CHAMPION.

Agaric Mineral. (C.)

CHAMPLAIN LAKE.

Phosphate of Lime. Asparagus stone, near, in minute, reddish brown crystals, with oxide of iron.

Opalescent Feldspar, near, in an iron mine.

Apophyllite, near.

Sahlite, near.

Graphite, near, where it is sometimes in rhomboidal, or hexædral laminæ, with mica and carbonate of lime. (C.) It occurs also at "Split-rock," in sienite. (Hall.)

Antimonial Grey Copper, near, in primitive rocks.

Magnetic Sulphuret of Iron frequently occurs in the iron mines on the west side of the lake.

Magnetic Oxide of Iron, occurs in immense quantities on the W. side of the lake, in granitic mountains, in beds from 1 to 20 feet thick, and generally unmixed with foreign substances.

Specular Oxide of Iron, near, in primitive rocks. (C.)

Favorite. (Sil. 7.59.)

Adularia, on the margin of the lake at a place called "Split-rock." It occupies small, round cavities in sienite, and also in

Compact Limestone.

Tabular Spar, on Split-rock, beautiful and abundant.

Hypersthene, 10 rods W. of Split-rock, in coarse sienite.

Crystals, often an inch or more in diameter, and 2 or 3 in length. (Hall.)

CHATHAM.

Milky Quartz, in an amorphous mass more than 100 feet in diameter, with hexaedral crystals disseminated. (C.)

Rhombohedral Quartz, (Sil. 5.21.)

Limpid Quartz, crystallized. (Sil. 8.37)

Sulphuret of Iron, in flattened or spheroidal masses, with radiations from the centre, and the masses often divide by a natural seam into equal portions. It is sometimes capillary. (Sil. 8.54.)

CHERRY VALLEY.

Selenite occurs with

Gypsum. (Hall.)

CHITTENINGO.

Mineralized Wood. A fossil tree was found lying about $\frac{1}{2}$ a m. from the village, at the base of the Conasewago mountains, within a few yards of a branch of the Erie canal, which runs up to the village. Vast quantities of mineralized wood, both in small and large masses, are scattered in all directions around the stump.

Hydraulic Limestone, and beautiful

Lamellar Gypsum are found in this neighbourhood.

Sulphur; about 2 m from the village, a spring of water is so highly charged with it, that branches of trees thrown into it, soon become incrustated with that mineral. (Sil. 5.251.)

CITY OF NEW YORK. See NEW YORK CITY.

CLAVERRACK.

Sulphuret of Lead, a vein has recently been discovered. (C.)

CLINTON.

Brown Spar, near Hamilton College.

Anthracite, near Hamilton College, in cavities of quartz; it is black, friable, has an earthy texture, and soils the fissures.

Sulphuret of Zinc, near the College; it occurs in beautiful, wax yellow, and nearly transparent crystals. (C.)

Peat and

Marl. (Sil. 1.139.)

COEYMANS.

Compact Limestone, a light brown, or grey marble, variegated by whitish fossil remains of the anomia, entrochite, &c. it is hard, and does not receive a good polish.

Marl, containing 40 to 85 per cent. of carbonate of lime, and embracing the voluta and helix.

Sulphate of Magnesia, in an alluvial bed 20 or 30 feet thick, where it effloresces on the sides of excavations, made by rivulets, or for roads, &c.; also 10 m. N. W. on the E. face of the Helderberg, in acicular crystals, and effloresces on a calcareous sandstone, which rests on secondary, compact limestone. (C.)

Calcareous Spar. (Webster.)

COHOES.

Basanite, near, on the Mohawk, and in various places between the Mohawk and Dutchess Co., associated with

Clay Slate, with which it alternates. (C.)

Calcareous Spar, in lenticular crystals. (Webster.)

COLD SPRING.

Stilbite, in feldspar, a specimen so labelled, from Maj. Delafield.

Magnesian Carbonate of Lime.

Coccolite.

Magnetic Iron Sand. (Webster.)

COLUMBIA CO.

Milky Quartz. (C.)

Sinople Jasper. (E.)

Sulphuret of Lead, a very rich ore, mixed with

Pyrites, is found in abundance in the southern part of the county, not far from the Ancram iron works. (Sil. 5.21.)

Chlorite Slate, abundant. (Sil. 8.52.) See Livingston's lead mine.

Wacke. (Sil. 8.258.)

Argillaceous Red Oxide of Iron.

Argillaceous Schistose Iron Stone. (Webster.)

CONCORD.

Black Tourmaline,

Feldspar, common, crystalline,

Adularia,

Petuntze,

Garnets,

Graphite, foliated, in small scales, and

Sulphuret of Molybdena, are found in massive granite, which occurs in an extensive ridge, on the N. side of the Sacandaga river, and not far from the road, leading from Edinburgh to Hadley, of a beautiful flesh color, consisting mostly of feldspar. (*Steel.*)

CORINTH.

Yellow Earth, near the foot of the Kayaderoseras mountain, on the farm of Judge Cowles, fine quality, and is said to occur in great abundance. By heat it is converted into what is called English or Prussian red. (*Steel.*)

CONSTITUTION ISLAND. See WEST POINT.

CORLAER'S HOOK.

Concreted Carbonate of Lime, (oolite,) near the city, in alluvial deposit; it consists of aggregated globules, about the size of mustard seed, and composed of concentric layers.

Basanite, in detached masses in alluvial soil.

Manganesian Garnet, in small, brownish, nearly opaque, aggregated crystals, in primitive rocks.

Asbestos; it is sometimes plumous, presenting on its fracture, delicate filaments, arranged in the form of feathers.

Actynolite. The asbestous or acicular variety occurs green, with a tinge of yellow or blue. (C.)

Apatite, crystallized and amorphous, in granite, chiefly in the feldspar, (*Sil.* 1.236.)

Graphite, in a calcareo-siliceous gangue. (*Sil.* 1.237.)

Epidote, in beautiful crystals, in a rock composed of schorl, quartz, cubic crystals of carbonate of lime, *indicolite*, &c. and an ore which probably contains *nickel*. (*Sil.* 2.241.)

Madreporite, found 50 feet below the surface. (*Sil.* 5.267.)

CROWN POINT.

Phosphate of Lime, apatite, near, in clove brown, 6 sided

prisms, generally $\frac{1}{4}$ of an inch long, in granular oxide of iron.
Green Diallage, near lake Champlain.

Magnetic Oxide of Iron, very abundant. (See lake Champlain.) Large beds of this ore extend, with little interruption, from Canada to the vicinity of New York. The ore at this place is most esteemed. (C.)

Ammonite, on the surface of

Secondary Limestone, in the vicinity of the fortifications. They are from $\frac{1}{4}$ an inch to 2 inches in diameter, very frangible, and cannot be detached entire from the rocks, without a mallet and chisel. (Sil. 7.58.)

Specular Oxide of Iron.

Verd Antique? 2 or 3 m. N. from the fort, on the W. shore of lake Champlain. (Hall.)

DANUBE.

Quartz Crystals. (Webster.)

DAUPHNY.

Quartz Crystals, and

Sulphuret of Zinc; specimens so labelled, from Maj. Delafield.

DELHI.

Clay, near, of fine quality, in beds. (Sil. 1.242.)

DIAMOND ISLE. See GEORGE LAKE.

DIAMOND POINT. See GEORGE LAKE.

DUTCHESS CO.

Calcareous Spar, laminated and associated with quartz. (C.)

Peat, soft, viscid, dark brown, burns with a bright flame, of the compact variety, and excellent quality, abundant.

Marl, a stratum from 2 to 3 feet thick, underlying the peat. (Sil. 1.139.)

Granular Limestone, associated with great quantities of

Dolomite, and

Magnesian Limestone, along the east side of the county. (Sil. 8.241.)

Sulphuret of Lead occurs in several places in this Co. (Sil. 8.260.)

*Graphite.**Arsenical Sulphuret of Iron*, in quartz. (*Webster.*)

ERIE LAKE.

Sulphate of Strontian, at the S. W. extremity of the lake, on Moss Island, near Put-in-Bay, and nearly 1 m. W. from the South Bass island; it occurs both massive, and in 6 sided or rhomboidal prisms, more or less transparent, in

Compact Limestone, containing shells. (C.) *Sulphate of Strontian* occurs in a vein, in a perpendicular cliff of limestone, about 50 feet high, and midway between its base and summit; it commences with a thickness of 4 feet, extends about 50 feet, nearly parallel to the surface of the lake, and terminates at a thickness of 1 foot. Where it begins, it consists of the compact crystallized variety, but distinct crystals cannot be obtained. The vein terminates in the foliated and fibrous variety. A quantity of distinct crystals were found in a cavity in the massive end of the vein. (*Sil.* 4.279.) This locality is at the upper end of lake Erie, 4 m. from Put-in-Bay harbour, and 4 m. from the nearest main land, on a solitary, oblong island, with precipitous sides of about 60 feet high; the S. end covered with trees. About the middle of the E. side, in the face of the cliff, limestone, the strontian occurs in a mass, about 4 yards by 3 in extent, ramifying every where, but more plentiful in the horizontal direction; in promiscuously aggregated bundles of crystals united laterally, from 1 to 4 inches long. Drusy cavities are numerous in the mass; here the crystals are perfect, and of enormous size; one weighed 6 lb. *Foliated Celestine* also occurs on the island of Celeron and Grosse isle, at the mouth of Detroit river, where it appears to have combined in some places with the limestone. (*Sil.* 4.281.)

Sulphuret of Mercury occurs in the soil in the form of a black and red sand, but is usually more abundant in banks of fine ferruginous clay, on the shores of the Detroit river, and lake Erie to the mouth of Vermillion river, where it is in the form of a very fine red powder, or in grains, and small masses, disseminated in clay. It yields by distillation, about 60 per cent. of mercury. (C.)

Argillaceous Iron, embracing shells and other animal remains, in the bed of Rocky river, 25 m. S. from lake Erie. (*Sil.* 1.239.)

Iron Sand, on the shore of lake Erie, near the river Ashtabula, in considerable quantity. (Sil. 2.238.)

Sulphate of Barytes. (Sil. 2.241.) This mineral, on examination, proves to be *Sulphate of Strontian*, and is found in Mouse island, which lies about 1 m. W. of Bass, or Put-in-Bay island. (Sil. 3.363.)

ESSEX CO.

Green Cocolite, in bluish crystallized
Carbonate of Lime, very beautiful. (Sil. 5.269.)

FAIRFIELD.

Limpid Quartz, in beautiful transparent crystals, with pyramids at both ends. (C.)

Sulphate of Barytes, lamellar. (Webster.)

FARMINGTON.

Sulphuric Acid, at Clifton springs, 11 m. from Geneva, mixed with native sulphur, from which it may be extracted by water.

Sulphur, deposited from the waters of Clifton springs, in grains. Moss, and other vegetables, over which the water flows, become incrustated with sulphur. (C.)

Petroleum, at the Clifton springs. (Webster.)

FISHKILL.

Garnet, near, rose colored. (C.)

FISHKILL MOUNTAINS.

Compact Feldspar, in these mountains, and different parts of the Highlands, in veins traversing gneiss. (C.)

FLORIDA.

Lamellar Sulphate of Barytes,

Brown Spar,

Quartz Crystals, with pyramids on each end,

Stalactitic Quartz,

Chalcedony,

Brown Hornstone, and pearly hornstone,

Agate, large masses of coarse

Petrosilex,

Anthracite,
Green Carbonate of Copper,
Sulphuret of Lead, and
Sulphuret of Zinc, are found in a transition sand rock, which crosses the canal in this town, 10 m. W. of Schenectady; also in Canajoharie, and W. of the Little falls in Herkimer Co. It runs in a N. E. and S. W. direction.

Transition Limestone, with numerous petrifications, every where accompanies the before mentioned sand rock. (*Sil.* 8.196.)

Calcareous Spar, white, black, and red. (*Webster.*)

FORT LEE.

Pyritous Copper, near the fort, on the Hudson, in the beds of streams, proceeding from the neighboring hills; it occurs in quartz, or in a breccia, with

Fibrous Carbonate of Copper, and
Micaceous Oxide of Iron. (C.)

FORT PUTNAM. See WEST POINT.

GALEN.

Muriate of Soda, in a spring, productive. (C.)

Bitumen, and

Petroleum. (*Webster.*)

GALWAY.

Compact Limestone, dark blue color.

Sulphate of Lime, (gypsum,) occurs in a spring on the farm of Earl Stimpson, Esq. (*Steel.*)

GENESEE.

Quartz, in alluvial soil, in very minute, shining prisms, terminated by pyramids. (C.)

GENESEO.

Bituminous Coal, of superior quality, in a vein taken from the face of a cliff 50 feet in height, composed of a dark colored, *Calcareous Slate*, which by friction emits a fetid odour, near a brook called Quisequagh, about 8 m. from Geneseo. (*Sil.* 7.56.)

GENEVA.

Magnetic Iron Sand. (Webster.)

GEORGE, LAKE.

Calcareous Spar, on Diamond island, in short 6 sided prisms, with 3 sided summits, with quartz in

Secondary Limestone.

Limpid Quartz, on the islands in lake George, in very beautiful, transparent crystals, which are generally 6 sided prisms, often with pyramidal terminations. These crystals, sometimes 5 inches long, occur loose, or in cavities in a quartz gangue.

Epidote, on the W. shore, 8 m. from Ticonderoga, it occurs compact, and deep yellow, with a shade of green.

Silico-Calcareous Oxide of Titanium, near, in clove brown crystals, in an aggregate of feldspar, and hornblende with graphite.

Graphite, near, in primitive rocks; sometimes in very compact masses, weighing 12 lb. (C.)

Compact Dots colored Limestone, apparently of the transition class, forms ledges at the head of lake George, and the walls of old fort George are composed of it. The quartz crystals in the islands of the S. end of lake George, are most abundant on Diamond island, 3 or 4 m. from the village of Caldwell, where they are found in the same compact limestone which forms the ledges above mentioned. (Sil. 4.44.)

Calcareous Spar, very brilliant, rhombic masses present themselves in the rocks on the island, supposed to be

Rhomb Spar. Quartz crystals are found at a place on the N. shore of the lake, called Diamond Point, in the same rock as on the island, with portions of

Chalcedony,

Hornstone and

Agate. (Sil. 4.45.)

Magnetic Iron Sand, very abundant around the head of lake George, of a fine glossy black. (Sil. 4.46.)

Hæmatite abounds in the primitive mountains, around lake George. That from a promontory, called Anthony's Nose, a few m. S. of Ticonderoga, and nearly opposite to Rogers' Rock, is ground and used as a substitute for emery. It is

handsome and well characterized ; compact, lamellar, fibrous, mammillary, botryoidal, &c.

Feldspar, flesh red, in very large plates in granite ; and compact epidote, in loose stones, of a chrome yellow, but with a shade of green, on the W. shore of lake George, 8 m. from Ticonderoga, where may be found

Garnet, and

Black Tourmaline. (Sil. 4.47.)

GLENN'S FALLS.

Satin Spar, in thin, delicate, but extensive veins, principally in the fallen rocks, below the bridge ; generally of a brilliant white, but sometimes it is black.

Rhomb Spar, in well defined, glistening crystals, occurs in the *Black Limestone*, at Glenn's Falls. (Sil. 4.44.)

GLENVILLE.

Marble, containing shells. (Webster.)

GRANVILLE.

Marble, clouded, said to be extensively wrought. (C.)

GREENBUSH.

Quartz, in prisms, sometimes 3 inches in diameter, with pyramids at both extremities.

Jasper, in rolled masses.

Sulphuret of Lead. (C.) See Rensselaer Co.

Shining Clay Slate. (Webster.)

GREENE CO.

Sulphate of Iron, in the channel of a stream, 2 m. S. E. of the Durham m. h. distinctly characterized, in a coarse variety of slate, which abounds with imperfect vegetable impressions, some of which are converted into

Coal ; also

Sulphuret of Iron. (Sil. 4.250.)

GREENFIELD.

Chrysoberyl, about 1 m. N. from the High Rock spring, Saratoga, in a vein of granite, traversing gneiss. This vein is composed of

Mica, in large, irregular masses, *priamatic* and laminated; the latter affords some well defined, rhombic crystals, and *Feldspar*, highly crystalline, which affords fine crystals of *Adularia*; and quartz, which is in considerable proportion. *Schorl*, in this vein, in great abundance, perfect and beautiful. *Emerald*, in small crystals, with the chrysoberyl; rare. *Garnets* are also found in this mass of highly crystalline substances. Garnets abound every where in the gneiss, which constitutes the eastern face of Pulmertown mountain; also in great abundance, and large, in mica slate, near, and along the southern termination of the primitive region. *Graphite*, foliated, and the oxide of iron, are diffused in the mica slate. (*Steel*.)

GREENWOOD FURNACE. See MUNROE.

GUILDERLAND.

Bog Iron Ore. (*Webster*.)

GROSSE ISLAND. See ERIE LAKE.

HAARLEM HEIGHTS.

Indicolite. (C.)

Epidote. (*Webster*.)

HADLEY.

Sulphate of Iron issues from the walls of the transition rocks, near the falls. (*Steel*.)

HAMILTON COLLEGE. See CLINTON.

HAVERSTRAW BAY.

Metalloidal Diallage, on the western shore of the bay. *Sulphuret of Iron*, in the Haverstraw mountains, forming beds in greenstone. (C.)

HELDERBERG.

Snowy Gypsum, connected with calcareous sandstone. *Ferruginous Quartz*, 16 m. from Albany, in fine crystals. (C.) *Marl*, *Clay*, and *Ochres*,

Alum, and petrifications. (*Sil.* 5.269.)

Calcareous Spar, handsome, crystallized. (*Sil.* 5.270.)

Sulphate of Magnesia, in crystals.

Sulphate of Alumine. Ferruginous Quartz.

Sulphur, from

Sulphuret of Iron.

Ochrey Brown Oxide of Iron. (*Webster.*)

HERKIMER CO.

Sulphuretted Hydrogen Gas issues through the water, near the head of Otisquago creek, manifestly proceeding from *Pyratous Shale*. It burns with a flame equal in extent to half a dozen candles. (*Sil.* 8.197.)

HIGHLANDS.

Sulphate of Barytes, adjacent to the Hudson, in *Limestone*.

Mica, at Munroe iron works, in black, 6 sided tables, 6 inches in diameter.

Epidote.

Graphite, 60 m. above N. York, with a structure between lamellar and striated.

Magnetic Pyrites.

Arsenical Sulphuret of Iron.

Magnetic Oxide of Iron.

Sulphuret of Zinc; it occurs black, opaque, nearly dull, and resembling some varieties of hornblende.

Sulphuret of Molybdena. (*C.*)

Stilbite, opposite West Point, in a decomposing, cellular, bluish feldspar, forming a vein in gneiss, in small, aggregated crystals, of a honey yellow color. (*Sil.* 5.399.)

Phosphate of Lime, green. (*Webster.*)

HILLSDALE.

Transition Limestone. (*Sil.* 8.21.)

Iron Ore beds are found in the same range with that noticed in Amenia. (*Sil.* 8.243.)

HONEOYE.

An Inflammable Gas proceeds from a fissure in a friable, slaty rock, whose surface is covered with a

Bituminous Substance. It has the odour of putrid eggs. (*C.*)

HOOSACK.

Clay Slate, whence large quantities are annually carried to Albany. (C.)

Metalliferous Limestone. (Sil. 8.21.)

HUDSON.

Compact Limestone, a greyish brown *Marble*, beautifully variegated by encrinurites, and other organic remains, occurs near *Selenite*, near, in clay.

Basanite, near.

Epidote, near. (C.)

Argillaceous Marl, constitutes the foundation of the city, in horizontal strata, containing a considerable portion of

Sulphate of Magnesia.

Siliceous Slate, in front of the principal street, forming a steep bank, which rises about 70 feet above the surface of the river.

Blue Compact Limestone, on Becraft's mountain, containing a great variety of petrifications.

Chlorite, and

Jasper, and *basanite*, in rounded fragments on Prospect hill, about 1 m. from the river. (Sil. 4.34.)

Jade, *nephrite*, found in rolled masses. (Webster.)

HYDE PARK.

Fetid Carbonate of Lime, in strata nearly vertical; and sometimes traversed by veins of *Calcareous Spar*. Its color is sometimes almost black. (C.)

JAY.

Magnetic Oxide of Iron, usually brown, of different shades, sometimes a brilliant black. (Hall.)

JOHNSON.

Quartz, and

Garnet. (Webster.)

KINGSBRIDGE.

Marble, wrought from

Granular Limestone, sometimes traversed by narrow veins of granite, mica slate, and quartz, and contains occasionally

Yellow Mica, and

White Augite, which is imbedded in the limestone, in rectangular, 4 sided tables, or 8 sided prisms, and

Tourmaline, &c. ; this limestone passes through West Chester Co., in strata dipping to the S. E. at about 65°, and is connected with that extensive deposit of granular limestone, which accompanies primitive rocks from Canada through the western parts of New England, crosses the Hudson near Stony Point into Rockland Co., and again appears in New Jersey, Pennsylvania, Maryland, and Virginia.

Rhätizite, (cyanite,) a mineral resembling the rhätizite is found in granular limestone, in yellowish white, crystalline masses, laminated, translucent, or transparent.

Schorl, in granular limestone, brown, or reddish brown, translucent, usually in 9 sided prisms, terminated at each end by 3 faces. Also in brownish yellow, 6 sided prisms, well terminated by 3 planes.

Fetid Feldspar, in primitive limestone, fetid when struck, bluish white, and contains carbonate of lime.

Tremolite, both crystallized, and in fibrous masses, in primitive limestone.

Sulphuret of Iron, in small dodecaedrons, with pentagonal faces, in primitive limestone.

Red Oxide of Titanium, near, on the island, amorphous, or in small, quadrangular, prismatic, transparent crystals, which are sometimes geniculated, and sometimes acicular; color varies from dark blood red to a light red,—disseminated in veins composed of

Fetid Quartz, feldspar, mica, and limestone, which traverse primitive limestone.

Silico-Calcareous Oxide of Titanium, in small, rhomboidal prisms, with diedral summits, of a light dove color, in primitive limestone. (C.)

Red Tourmaline, imbedded in primitive limestone, or rather

Dolomite. The tourmaline occurs in crystals of various shades of red and brown, (Sil. 2.366.) 15 m. from the city.

KNOX.

Fibrous Carbonate of Lime, in a cave. (Webster.).

LAKES. See their proper names.

LANSINGBURG.

Quartz, in small, brilliant, well defined crystals. (C.)

Glazed Slate. (Sil. 8.22.)

Sulphate of Magnesia, effloresces on clay in the bank of the Hudson, 3 m. above the village of Lansingburg. (Sil. 8.60.)

LEICESTER.

Brown Spar, on Genesee river, in dark brown, translucent, lenticular crystals, sometimes so grouped as to present a scaly aspect, (C.)

LENOX.

Muriate of Soda. (Webster.)

LEWIS CO.

Green Fluuate of Lime.

Sulphuret of Lead, in green fluor. (Webster.)

LEWISTOWN.

Compact Limestone, forming the banks of the Niagara, which are here 150 feet perpendicular.

Gypsum is found filling the cavities in the rocks, on the edge of this bank, all the way from this town to the Falls, from 100 to 150 feet above the present high water mark. These little cavities in the rocks are numerous, most of them are filled with rhomboidal crystals of

Carbonate of Lime, and on these rhomboidal crystals are occasionally found and deposited, those almost cubic crystals of carbonate of lime, the cuboide of Haüy. (Sil. 4.36.)

LITTLE FALLS.

Sulphate of Barytes, in lamellar masses, at these Falls, which are on the Mohawk, Herkimer Co. (C.)

Argillaceous Iron Ore, in an uninterrupted stratum, or layer, extending from near these Falls to 30 m. beyond Niagara river. There is a single, unbroken stratum of this ore 250 m. long, and from 20 to 30 m. broad, and generally from 12 to 20 inches thick. (Sil. 8.196.) See Herkimer Co.

Siliceous Rock.

Compact Feldspar, in gneiss.

Anthracite.

Graphite. (Webster.)

LIVINGSTON'S LEAD MINE.

Sulphate of Barytes, associated with galena. Columbia Co.
Sulphuret of Silver, in the lead mine.

Sulphuret of Lead, in veins, sometimes large, traversing a slaty rock, and associated with

Blende,

Pyrites,

Pyritous Copper,

Malachite, sulphate of barytes, &c. This ore is sometimes foliated, and sometimes steel grained, yielding from 70 to 80 per cent. of lead. When all the varieties are melted together, one ton is said to yield 118 oz. of silver. (C.)

LOCKPORT.

Brown Spar, in small, rhomboidal crystals; surfaces curved, white, pearly.

Selenite, in laminated masses, transparent. (Hall.)

Sulphate of Strontian, in beautiful crystals.

Dog tooth Spar, and

Pearl Spar, in immense quantities.

Arragonite, rare.

Fluate of Lime, in limpid, cubic crystals.

Snowy Gypsum, and selenite, abundant.

Quartz Crystals, numerous; also *petrifications*.

Sulphuret of Zinc, waxy, transparent. The foregoing minerals are found in geodes, which abound in

Swinestone, or geodiferous lime rock, which forms most of Niagara falls. The canal in this place is cut 30 feet deep into it for 2 m. East of Genesee river it is cut through it for about $\frac{1}{2}$ a m. It extends from Genesee river to a considerable distance W. of Niagara river. (Sil. 8.197.)

Sparry Anhydrous Sulphate of Lime, and *Epigene*. (Webster.)

LONG ISLAND.

Jasper, in large rolled masses, usually red, sometimes brown.
Green Feldspar, at Cow bay, apple green, and in considerable quantities.

Columnar Argillaceous Oxide of Iron, near Plandome, in small columns.

Sulphuret of Molybdena. (C.)

Clay, very white, in beds, and

Fossil Wood, at Sand's Point. (Sil. 7.35.)

LYONS.

Argillaceous Oxide of Iron. (C. A. Lee.)

MADISON CO.

Sulphate of Lime is very abundant.

Laminated Selenite, and

Fibrous Gypsum are associated with the more common variety, and the color of this selenite is often very black. Sulphate of lime is very abundant in Onondaga, in this Co., and in the vicinity of Cayuga lake, whence several thousand tons are annually exported to Pennsylvania.

Compact Limestone, or argillo-ferruginous limestone, for water cement. (C.)

MALONE.

Magnetic Oxide of Iron. (Hall.)

MANLIUS.

Gypsum alternates with an argillaceous slaty rock. The gypsum of this state is often connected with compact limestone, and calcareous sandstone. (C.) It occurs on the S. bank of the great canal.

Sulphate of Lime, in prismatic crystals. (Webster.)

MARBLETOWN.

Calcareous Spar.

Black Marble.

Marl, containing fossil bones.

Graphite, in carbonate of lime. (Webster.)

MILTON.

Compact Limestone, dark blue color.

Sulphuretted Hydrogen occurs in the waters of a weak, acidulous saline, 2 m. W. from Saratoga springs. (Steel.)

MONTEZUMA.

Muriate of Soda, springs of water impregnated with this salt. (C.)

Compact Limestone, for water cement. (Webster.)

MONTGOMERY.

Compact Limestone, with shells, and
Quartz Crystals, in the seams in limestone, fine and abundant.

Potter's Clay.

Shale, with vegetable impressions, containing veins of

Coal. These minerals are found in the village of Walden, 11 m. from Newburg.

Fuller's Earth, near the village. (*J. M. Capron.*)

MOREAU.

Calcareous Spar occurs in the seams and fissures of argillite more abundant at Baker's falls.

Granular Limestone, in the immediate vicinity of the soapstone, and appears to rest upon it.

Compact Limestone, dark blue color.

Coccolite, in this locality of granular limestone, in considerable masses of a dark green color, in distinct, granular concretions, translucent, and nearly the size of a pea.

Steatite occurs at, or near the foot of the Palmertown mountain, covered by granular limestone. It is the variety called

Potstone.

Clay Slate forms the bed of the Hudson to a little above Baker's falls, opposite Moreau, and appears to underlay the greater part of the county, not included in the primitive.

Graphite, in thin laminæ, imbedded in granular limestone; also glazing some of the argillite.

Sulphuret of Iron, imbedded in granular limestone, in considerable masses.

Sulphuret of Molybdena, frequently diffused among the grains of coccolite, usually in small lamellar masses, sometimes in 6 sided tables; graphite frequently occurs in the same mass. (*Steel.*)

MORIA.

Graphite, on the E. side of a mountain, and but a few rods from the road.

Magnetic Oxide of Iron, the polarity of its small fragments very striking.

Specular Oxide of Iron, on granite. (*Hall.*)

MORRISIANA.

Rose, or Milk Quartz. (Webster.)

MOSS, OR MOUSE ISLAND. See ERIE LAKE.

MOUNT DUNDERBERG.

Graphite occurs both foliated and compact. (C.)

MOUNT MARINO.

Siliceous Slate, base of the causeway, and
Basanite, near the S. end of the causeway, in the flinty slate,
 abundant. (E. 177.)

MUNROE.

Mica, at the iron works, in black, 6 sided tables, 6 inches in diameter. (C.) Munro iron works are situated on the river Ramapough. (Sil. 5.25.)

Green Coccolite, and

Sahlite, about 16 or 20 m. S. of Newburgh, and about $\frac{1}{2}$ a m. from Greenwood furnace, and near a small stream which moves the machinery of the works, were found large rocks, of a very beautiful, green coccolite, and sahlite. This locality is extraordinary, in presenting specimens of these minerals, in great abundance, and of uncommon beauty.

Green Augite rock, forming the roof and sides of an excavation, made in searching for iron ore, in the bank of a ravine, through which ran the stream spoken of above. This rock has natural fissures, so that the fragments, which were of irregular shape and size, could be easily separated with a pick axe. The crystals were generally found on the edges and surfaces of these fragments; but many specimens were found, in which the crystals were imbedded in a mass of

Carbonate of Lime, or protruded from it. A vein of *Green Mica*, about 1 foot in breadth, and several feet in depth, passed through the rocks, mostly in 6 sided tables, sometimes in large, triangular pyramids. On the borders of this vein were found nearly all the crystals of augite, all of which are 8 sided prisms, with summits of from 4 to 8 faces, of a brilliant lustre. Their size varies from that of extreme minuteness, to that of 5 or 6 inches in circumference.

Ceylanite, or *Black Spinelle*, accompanied by *Brucite*, both lying in carbonate of lime, a rich locality, about 4 m. from Greenwood, in the direction of fort Montgomery. The ceylanite was mostly in octaedrons, very small, and so thick and in such numbers, as to form large, black stripes, several inches in breadth, and feet in length, in the limestone. Ceylanite has been found at the Forest of Dean, some miles distant from the above locality. (*Sil.* 8.88 to 92.)
Octaedral Iron?

NEW CONCORD.

Radiated Sulphuret of Iron, in spheroidal masses. (*C.*)

NEW LEBANON.

Aluminous Slate, near the springs. (*C.*)

Alum, (*Sil.* 5.21.) found in abundance in aluminous slate. (*Sil.* 8.36.)

Siliceous Limestone, rhomboidal.

Roofing Slate, slate and limestone with talc glazing.

Peat, in Hunter's, and in Adgate's swamp.

Cubic Pyrites, in slate.

Iron Ore. (*Sil.* 5.21.)

Transition Limestone, from which issues the mineral spring. (*Sil.* 8.21.)

Muriate of Soda, in the spring. (*Sil.* 8.32.)

Calcareous Tufa, deposited in quantity from the spring, often presenting fine mammillary and verrucose forms. (*Sil.* 8.34.)

NEW PALTZ.

Clay Slate, (*C.*) roofing slate.

NEWPORT.

Limpid Quartz, 95 m. N. W. from Albany, in perfectly transparent crystals, and terminated at both ends by pyramids, equal in beauty to those of Fairfield. (*Sil.* 6.247.)

NEWTOWN.

Bituminous Wood. (*Webster.*)

NEW YORK CITY, AND ISLAND.

Dolomite, near, large grained, containing

Tremolite.

Apatite, near, usually in greenish prisms imbedded in granite.

Asparagus Stone, on the Island, in a vein of quartz traversing mica slate, pale or deep green prisms, 2 to 4 inches long.

Rose Red Quartz, on the island, in granite.

Hornstone, on the island, in rolled masses, with

Jasper. The striped variety of jasper has been found on the shores of the Hudson, in rolled masses, yellowish white, muddy blue and green.

Cyanite, near, in granite (C.); also 4 m. from the city. (Webster.)

Staurolite, $3\frac{1}{2}$ m. on the bank of the Hudson, in mica slate, in short but very perfect 4 sided prisms, terminated by diedral summits.

Mica, near, in very perfect 6 sided prisms in granite.

Adularia, near, in small crystals, in veins of quartz, which traverse limestone.

Beryl, on the island, in small crystals in granite.

Epidote, near, in bright yellowish green crystals, in mica slate and other primitive rocks.

Zeolite, near, in primitive rocks.

Asbestos, radiated, or stellated, is found in large rolled masses, in several parts of the island, and on the banks of the Hudson, $4\frac{1}{2}$ m. from the city, it occurs in a rock of considerable extent.

Actynolite, on the island, in granite; also in radiated asbestos, in which it occurs, in long, compressed, rhombic prisms, fine green color and vitreous lustre.

Green Earth, on the river Hudson.

Graphite, near, in a feldspar rock. Also in hexaedral prisms in a gangue of brownish oxide of iron, embracing hornblende and mica.

Bog Ore, on the island, in large beds, and contains much

Oxide of Manganese, which occurs also in hollow, friable pebbles, in alluvial hills, and is very pure.

Sulphuret of Molybdena, on the island, in very flexible folia, and in thicker masses in gneiss.

Red Oxide of Titanium, on Hudson river, both crystallized and amorphous, in a gangue of

Carbonate of Lime. (C.) Graphic granite, near, on North river. (Sil. 1.237.)

Emerald.

Pyroxene, in primitive limestone.

Manganesian Epidote.

Red Oxide of Iron.

Garnet, 4 m. from the city.

Mesotype, 9 m. from the city. (*Webster*.) See Corlaer's Hook.

NEW YORK CO.

Tourmaline, in a basaltic matrix.

Graphite, in sparry limestone.

Green Phosphate of Iron. (*Webster*.)

NIAGARA CO.

Sparry Gypsum.

Sulphur, in *Asbestos* and limestone. (*Webster*.)

NIAGARA FALLS.

Calcareous Spar, at the foot of Goat island, in 6 sided prisms, and in rhombs.

Calcareous Tufa, incrusting moss.

Gypsum, snow white, and sometimes granular, and

Selenite, at the foot of Goat island, in transparent masses, both of which occur in connexion with

Fetid Carbonate of Lime.

Sulphuret of Zinc, near, yellow, in fetid limestone. (*C*.)

Swinstone, or *Geodiferous Limerock*, forms most of the falls.

This rock extends from Genesee river to a considerable distance W. of Niagara river. The canal at Lockport is cut 30 feet deep into it for 2 m. East of Genesee river it is cut through this rock about $\frac{1}{4}$ a m. It abounds in geodes which contain beautiful crystals of sulphate of strontian, limpid cubic crystals of fluor spar, transparent waxy sulphuret of zinc, immense quantities of dog tooth spar, and pearl spar, selenite and snowy gypsum, arragonite, though rare, and numerous quartz crystals. It contains many petrifications also.

Sulphuretted Hydrogen Gas issues through the water at the foot of the bank 1 m. above the falls, manifestly proceeding from

Pyritous Shale. The gas burns with a flame equal in extent to that of half a dozen candles. (*Sil. 8.197*.)

Quartz Crystals.

Flint. (*Webster*.)

NISKEUNA.

Schist, of the Mohawk, at this place full of petrifications. (*Sil.* 5.269.)

NORTH EAST.

Inflammable Gas, very pure, proceeds from the bottom of a small lake. (C.)

Peat, and

Marl. (*Sil.* 1.139.)

Asbestos. (*Webster.*)

ONEIDA CREEK.

Calciferous Slate, underlaying all the country, over which the stage road passes, from this creek to near Genesee river, parallel to the canal, and from $\frac{1}{2}$ a m. to 20 m. S. of it.

In this slate we find,

Gypsum, in numerous beds of vast extent; also

Shell Limestone,

Water Limestone,

Sulphate of Magnesia,

Sulphate of Iron, and

Alum, in numerous localities. This slate may be called secondary grey wacke. (*Sil.* 8.197.)

ONONDAGA CO.

Gypsum, very abundant. See Madison Co.

Water Limestone, or argillo-ferruginous limestone. (C.)

ONTARIO.

Lenticular Argillaceous Oxide of Iron, in insulated masses, or extended in beds, in alluvial deposit; often containing very perfect fossil shells. (C.)

ONTARIO CO.

Fluate of Lime, crystallized, colors deep purple, almost black. (*Sil.* 4.188.)

ONTARIO LAKE.

Rhomb Spar, beautifully crystallized, with common

Calcareous Spar, crystallized, and

Snowy Gypsum, fibrous and foliated, on the shores of lake Ontario. (*Sil.* 5.41.)

Sculy Red Oxide of Iron occurs along the shores of lake Ontario. (Hall.)

ORANGE CO.

Marl, deriving its calcareous ingredient from shells; and sometimes contains large fossil bones.

Feldspar, in fine crystals, in a granitic aggregate.

Graphite, in carbonate of lime. (C.)

Granular Limestone, white, embracing

Brucite,

Zircon,

Talc, and foliated graphite. (Sil. 5.30.)

Satin Spar. (Webster.)

PALATINE BRIDGE.

Quartz Crystals, containing anthracite.

Anthracite. (Webster.)

PEEKSKILL.

Silico-Calcareous Oxide of Titanium, near, in an aggregate of feldspar, quartz, and hornblende.

Blue Quartz, in gneiss.

Chalcedony, with

Actynolite.

Epidote. (Webster.)

PETERSBURGH.

Transition Limestone. (Sil. 8.21.)

Chlorite Slate, abundant. (Sil. 8.52.)

Sulphuret of Iron, in crystals, often more than an inch on a side. (Sil. 8.55.)

PHILLIPSTOWN.

Blue Quartz, good specimens, in blocks of granite, in the stone walls along the road, near the *Rocking stone*, which lies on the farm of Mrs. McCabbe, about 1 m. W. of the turnpike, from the village of Peekskill to the town of Kent, 8 m. from Peekskill, on the left, near the top of a very high and steep hill.

Asbestos; good specimens may be obtained at a short distance from this stone.

Steatite, large masses are scattered around the rocking stone.

(Sil. 5.253.)

Mica, crystallized.

Stilbite.

Laumonite.

Tremolite.

Amianthus, seams of, in serpentine.

Diopside.

Lamellar Green Pyroxene.

White Coccolite.

Green Coccolite, in rhombic carbonate of lime.

Precious Serpentine.

Iron, in octaedrons.

Silico Calcareous Oxide of Titanium. (*Webster*). The foregoing minerals were discovered by Dr. J. Barrett; the locality is 4 m. N. E. from Cold Springs, and is uncommonly rich, in the abundance, and beauty of its specimens. (*Horace Webster*.)

PITTSBOWN.

Oxide of Manganese, iron, &c. (*Webster*.)

PLANDOME. See LONG ISLAND.

PUT-IN-BAY ISLAND. See ERIE LAKE.

PUTNAM CO.

Sulphuret of Molybdena. (*C*.)

Precious Serpentine, remarkably elegant. (*Sil.* 7.57.) See Cold Spring, and Phillipstown.

RENSSELAER CO.

Milky Quartz. (*C*.)

Schist, embracing pectinites. (*Sil.* 5.269.)

Chlorite Slate, in various places. (*Sil.* 8.52.)

Sinople Jasper. (*E*.)

Siliceous Slate. (*Webster*.) See Greenbush, Hoosack, Lansingburgh, Pittstown, Sand Lake, Schaghticoke, and Troy.

RHINEBECK.

Stalactite and *Stalagmite*, fine specimens occur in caverns.

Fetid Carbonate of Lime, in strata almost vertical, and sometimes traversed by veins of

Calcareous Spar. The fetid limestone is sometimes almost black, near the flats.

Limpid Quartz, perfect crystals are found in alluvial deposit, which is sometimes ferruginous.

Jasper, in detached masses, traversed by veins of *Semi Opal*.

Schorl, in reddish brown bladed masses, in quartz, (C.) and in masses of crystalline quartz. (Sil. 1.237.)

Granular Epidote, in a ferruginous

Green Feldspar.

Clay Slate.

Radiated Sulphuret of Iron.

Sulphuret of Lead. (C.)

Peat, and

Marl. (Sil. 1.139.)

Calcareous Sinter. (Webster.)

ROCHESTER.

Fluate of Lime, well crystallized, in cavities of secondary lime rocks in considerable quantities, $\frac{1}{2}$ a m. from Rochester, on the Genesee river, in the bed of the great canal. (Sil. 3.367.) See Brighton

Foliated Gypsum, of a rose color; several specimens were found below the falls.

Nodular Sulphate of Barytes, in the bed of the Genesee river, a few m. below Rochester, imbedded in red sandstone, externally having the appearance of agates. (Sil. 7.56.)

ROCKLAND CO.

Granular Limestone. (C.) See Fort Lee, Haverstraw Bay, and Stony Point.

ROGER'S ROCK.

Calcareous Spar, in hemitrope, or grouped crystals.

Sahlite, 8 m. from Ticonderoga, presenting green 8 sided prisms, 1 inch diameter, and passing into

Coccolite, or granular augite, which forms a mass of many tons weight, colors numerous, and grains very small. (C.) *Coccolite* occurs near the summit of Rogers' Rock, and at a number of other places in the vicinity, color pale and blood red, brown and black; green is rare. This is one of the richest localities of minerals in the United States. Within the limits of 4 or 5 acres exist, massive and crystallized

Garnet; several varieties of *coccolite*; also

White and Green Augite, crystallized and massive; very beautiful

Adularia, in thin, transparent tables, of a milk white color, rarely tinged with yellow, and

Common Feldspar.

Tabular Spar, less abundant and less beautiful than that at "Split Rock," Essex Co. (See Champlain Lake.)

Hornblende; calcareous spar, containing

Brucite, and elegant crystals of

Silico-Calcareous Oxide of Titanium. (Hall.)

Graphite. (J. A. N. S. P. 2. 187.) See Ticonderoga.

ROME.

Granular Argillaceous Oxide of Iron, near, associated with *Secondary Limestone*. (C.)

Sulphuret of Zinc, yellow. (Webster.)

RYE.

Serpentine. It is green, and reddish brown in irregular spots and veins, and receives a good polish.

Chlorite, in considerable quantities, containing

Schorl, in long, slender, perfect crystals. (C.)

SABBATH-DAY POINT.

Epidote, S. of Ticonderoga. (Webster.)

SALINA.

Muriate of Soda. Salt springs are numerous and productive in this state. The most important are at Salina, near Onondaga lake, Montezuma in Cayuga Co., and Galen in Seneca Co. These springs are near the canal, which connects the Hudson with lake Erie. 1,000,000 bushels of salt are annually extracted from saline springs in the United States; and of this the springs of New York furnish more than 500,000 bushels. (C.)

SALISBURY.

Quartz Crystals.

Anthracite.

Green Carbonate of Copper.

Sulphuret of Lead.

Sulphuret of Zinc. (Webster.)

SAND LAKE.

Limpid Quartz, in good crystals. (Sil. 7.252.)

Marl, Earthy Calcareous, a large bed in Sand lake. (Sil. 8.36.)

SARATOGA CO.

Milky Quartz. (C.)

Sinopite Jasper.

Adularia. and

White Feldspar.

Graphite, 7 m. N. of the springs, in granite, foliated and granular. (E.)

Calcareous Spar, beautifully crystallized, possessing a variety of colors, occurs in hornstone, and calcareous sandstone.

Marl, argillaceous and calcareous, appears to underlay almost the whole of the sandy alluvion of this county.

Shell Limestone.

Sulphate of Lime, and

Alum, efflorescing on the sides and walls of argillite in several places. Alum, in several places on Fish creek, efflorescing

Common Quartz.

Limpid Quartz.

Smoky Quartz.

Greasy Quartz.

Ferruginous Quartz.

Hornstone is found in great abundance, imbedded in the calcareous sandstone.

Red Jasper, in argillite.

Garnet, abundant, in gneiss and mica slate.

Epidote.

Hornblende, common.

Chlorite, in large masses, in argillite.

Clay Slate appears to underlay the greater part of the county, not included in the primitive, forming the bed of the Hudson to a little above Baker's falls, opposite Moreau, and that of the Mohawk to above Schenectady. It is seen along the shores of the lakes at Ballston and Saratoga.

Sulphuretted Hydrogen Gas is found in the sulphurous waters in a number of places in the vicinity of the argillaceous slate formation.

Lignite.

Pyritous Copper, considerable masses were thrown out in blasting the stratum of coarse siliceous sandstone, which extends from the N. line of Saratoga springs into Greenfield, and lies 6 to 10 feet below the soil.

Sulphuret of Iron, extensive beds are found in the mountains, among gneiss rocks.

Native Magnet, and

Brown Hematite of Iron, same region.

Magnetic Oxide of Iron.

Lenticular Argillaceous Oxide of Iron. (Steel.)

Apophyllite, or *ichthyophthalmite*. (R. H. Steel.) For more particular localities in this county, see Ballston, Cohoes, Concord, Corinth, Galway, Greenfield, Hadley, Milton, Moreau, Saratoga Lake, Saratoga Springs, and Waterford.

SARATOGA SPRINGS.

Carbonic Acid. 100 cubic inches of water from the Congress spring yielded Steel 148.5 of carbonic acid.

Fluate of Lime, near the springs, small specimens, in

Compact Limestone. The fluor spar is nearly colorless, and penetrated by

Pyrites.

Hornstone, near, in globular masses, sometimes dark grey, but more often light grey, or whitish, with a tinge of yellow, imbedded in limestone.

Chrysoberyl, about 1 m. N. of the High rock spring, in a vein of granite, traversing gneiss; greenish yellow and translucent, with

Prismatic Mica. (C.) See Greenfield.

Limpid Quartz, in the vicinity of the springs, among the calcareous sandstones; beautiful and very perfect crystals in great abundance.

Chalcedony, lining the cavities, which are very numerous, of a kind of amygdoidal rock. It more frequently forms geodes, the insides of which are usually studded with small, brilliant crystals of quartz. The walls of these geodes frequently pass into

Agate, in various places, but its best locality is 80 or 100 rods W. from the Congress spring.

Bog Ore, on the planes between Saratoga and Ballstown springs, it formerly furnished a forge which for a number of years produced 50 to 70 tons of bar iron annually. Along

the bottom and banks of small streams, or at the bottom of hollows that are at some seasons filled with water. (*Steel.*)
Spodumene, near, associated with reddish feldspar, black mica, and quartz, forming a beautiful granite. (*R. H. Steel.*)
Calcareous Tufa, abundant in the vicinity of the springs. The "High rock" is formed of it.
Yellow Jasper, in rounded fragments in the vicinity of the springs.

SCHAGHTICOKE.

Schistose Marl, or argillaceous limestone, containing 40 per cent. of lime, and disintegrating on exposure. (*Sil.* 8.36.)

SCHENECTADY.

Arragonite, in geodes and cavities, forming the cement of a puddingstone, near. (*Sil.* 5.256.)
Sinople Jasper, in this county. (*E.*)
Calcareous Sinter, near. (*Prof. Silliman.*)

SCHOOLEY'S MOUNTAIN.

Zircon, in detached masses of granite, consisting chiefly of feldspar. (*C.*)
Native Magnet. (*Sil.* 5.28.)

SEMPHRONIUS.

Calcareous Tufa, fine, and exhibiting distinct impressions of vegetables. (*Sil.* 7.252.)

SENEKA LAKE, and PRAIRIES.

Variegated Marble, near. It has a fine grain and receives an excellent polish.
Petroleum. It usually floats on the surface of springs, which, in many cases, are known to be in the vicinity of
Coal. The petroleum is sometimes called Seneca, or Genesee oil.
Flint, in the Seneca prairies, imbedded in
Limestone. (*C.*)

SHAWANGUNK MOUNTAIN.

Alum, near, efflorescing on
Clay Slate. The predominant rock of this mountain, according to Mr. Pierce, is a white breccia, composed of pebbles

of quartz, united by a siliceous cement ; and according to Mr. J. Bradbury, alum is sometimes found in veins, traversing this breccia.

Limpid Quartz, at the lead mine, in very fine crystals.

Sulphuret of Lead, on the W. side of the mountain, sometimes with

Sulphuret of Zinc, which occurs brown. (C.)

SING SING.

Marble, wrought from

Granular Limestone. It often contains grains of quartz, which cause it to give fire under the chisel.

Brucite is said to exist here.

Beryl, in granite.

Tremolite, in granular limestone.

Augite, in 6 sided prisms, sometimes geniculated, in limestone.

Auriferous Native Silver, near, in a very small vein. (C.)

STATEN ISLAND.

Crystallized Carbonate of Magnesia, in veins or in cavities in magnesite or steatite.

Pulverulent Carbonate of Magnesia.

Smoky Quartz, in well defined crystals.

Radiated Quartz.

Mica, in small, regular, hexaedral crystals in steatite.

Prehnite, in rolled masses of greenstone.

Amianthus occurs uncommonly beautiful in steatite. These fibres are rose or straw colored, sometimes between 2 and 3 feet long, and possess the lustre and softness of silk ; other varieties of *asbestos* occur in the same island.

Common Talc, and

Indurated Talc, in veins traversing

Steatite, which is very abundant, and forms a large proportion of the elevated grounds on the eastern part of the island ? Soft, adhesive to the tongue, yellowish grey, or greenish yellow. When connected with talc it is greenish, and more compact. It contains all the varieties of talc, most of the varieties of *asbestos*, and some

Chromate of Iron, which is sometimes in opaque, black octaedrons, and sometimes granular and amorphous.

Hepatic Sulphuret of Iron.

Hematitic Brown Oxide of Iron, in detached, stalactical, or mammillary concretions, blackish brown, often with a shining surface.

Granular Argillaceous Oxide of Iron sometimes forms extensive beds.

Silico-Calcareous Oxide of Titanium, near fort Richmond, in yellowish grey crystals, sometimes large, in a gangue of feldspar and dark green hornblende. (C.)

Magnesite, embracing veins and cavities, containing native carbonate of magnesia, in very white acicular crystals, grouped in minute fibres radiating from the sides, but not always filling the veins and cavities. This magnesite appears to be composed of carbonate of magnesia, steatite, and talc, disintegrating readily upon exposure to air and moisture; very abundant about 3 m. from the quarantine, in an excavation. (Sil. 1.143.)

Cellular Ferruginous Quartz, in which are found small siliceous crystals, in the middle and western part of the chain of hills. (Sil. 1.144.)

Chalcedony, and radiated quartz, are sometimes observed on the primitive ridge.

Shot Ore, a granular oxide of iron, appears in some places in extensive beds. A heavy ore, with a smooth surface, and some lustre, resembling native iron, is sometimes seen.

Copper Ore, detached pieces have been found near fort Tompkins. (Sil. 1.145.)

Red Jasper, in rolled masses on the surface.

Lignite, in small quantities, in the western part of the island. (Sil. 1.146.)

STEEL'S MILLS.

Inflammable Gas issues from the earth in several places, very abundantly between Chippewa and Niagara falls, at Steel's mills. (C.)

STONY POINT.

Granular Limestone crosses the Hudson near Stony Point, in Rockland Co.

Green Feldspar, mottled with black mica, composing the rocks on the summit of Stony Point. (C.)

Splintery Serpentine, in veins in a ferruginous rock, on the N. side of this eminence (Sil. 2.188.)

TARRYTOWN.

Feldspar, near, greenish grey, in extensive beds, from 3 to 9 feet thick, connected with mica slate.

Tremolite, intimately mixed with

Carbonate of Lime. (C.)

TICONDEROGA.

Calcareous Spar, in transparent, laminated masses, and in rhombic crystals.

Silico-Calcareous Oxide of Titanium, in large, yellowish grey, rhomboidal prisms, with diedral summits, in feldspar, with hornblende and graphite. (C.)

Graphite, on Cobble hill, about 3 m. N. W. from the Upper falls, in veins nearly perpendicular, from 1 to 8 inches thick, in a gangue of *Graphic Granite*, in primitive rocks. Near the summit of the hill, it is disseminated in a granitic rock, sometimes in small nodules, but oftener, in thin laminæ, of a brilliant metallic lustre. Three tons of black lead are here prepared for the market, annually, by G. C. Baldwin, Esq., its price averaging \$16 per 100 lbs. (*Sil.* 6.178.)

Fetid Limestone.

Augite, 3 m. S. from the Upper falls, amorphous, and in hex-aedral prisms, green of different intensities, and white. Masses have been obtained, consisting of augite, feldspar, graphite, and silico-calcareous oxide of titanium, half of which was crystals of augite.

Sulphuret of Iron, in cubes, elongated, and grouped.

Red Oxide of Iron; a red pigment, of good quality, is made of this ore, by a Mr. Stone of this town, who also prepares the same ore into what is called emery, and it answers nearly all the purposes of emery. Also, from the purest pieces of the same ore, is manufactured a very beautiful species of pigment, which resembles, and is but little, if at all, inferior to that Asiatic production, called *Indian Red.* (Hall.)

Yellow Quartz, or citrine, crystallized. (R. H. Steel.)

Schorl, in quartz.

Kaolin.

Sulphuret of Copper. (Webster.)

TROY.

Jasper, in the vicinity, where it is sometimes green.

Basanite, near.

Slaty Chlorite, 17 m. E. in strata, sometimes narrow, and sometimes 2 or 3 m. wide, often rising into hills 200 or 300 feet high.

Oxide of Manganese, near. (C.)

Fibrous Quartz, a singular variety in veins, in

Varnished Clay Slate, near. (E.)

Hornstone,

Crystallized Quartz,

Lenticular Spar,

Iron Pyrites,

Bituminous Shale, and anthracite, are found interspersed through the siliceous slate, in digging wells. (Sil. 3.72.)

Fibrous Limestone, between the layers of fine grained greywacke in small quantities, beautiful.

Compact Limestone, near, with shell limestone. (Sil. 8.33.)

Siliceous Slate, in beds in

Transition Clay Slate. (Sil. 8.41.)

Aluminous Slate, in argillite. (Sil. 8.52.)

Anthracite has been found in small quantity, in grey wacke slate, especially at Schuyler's quarry. (Sil. 8.58.)

Coarse Heliotrope, in the vicinity. (C. U. Shepard.)

ULSTER CO.,

Marl, sometimes containing large fossil bones.

Graphite, in

Carbonate of Lime. (C.) See Marbletown, New Paltz, Shawangunk, Warwarsing, and Woodstock.

VERNON.

Muriate of Soda. Salt springs occur at frequent intervals from Vernon to 30 m. W. of Niagara river, about 230 m. in *Red Clay Slate*, and secondary sandstone.

Carburetted Hydrogen Gas issues from the foot of a hill, near the stage road, 1 m. W. of Vernon village, undoubtedly proceeding from crevices in the rock, which forms the floor of the salt springs. It burns brilliantly.

Sulphuret of Lead, and

Sulphuret of Zinc occur 1 m. E. of Vernon village, in Millstone grit. (Sil. 8.198.)

Lenticular Argillaceous Oxide of Iron. (Webster.)

WARWARSING.

*Quartz.**Sulphuret of Copper.**Sulphuret of Iron.**Sulphuret of Lead.**Sulphuret of Zinc. (Webster.)*

WARWICK.

Brucite, in white foliated limestone, resting on gneiss.*Graphite*, and mica, with brucite in limestone.*Arsenical Iron. (C.)*

WASHINGTON CO.

Marl, very white and friable, somewhat resembling the *whiting* of commerce, and contains the planorbis and helix. (C.)

See Baker's Falls, Glenn's Falls, Granville, and White Creek.

WATERFORD.

Jasper, in rolled masses. (C.)

WATERVLIET.

*Bog Iron Ore. (Sil. 5.270.)**Siliceous Slate.**Clay Slate. (Webster.)*

WEST CANADA CREEK.

Limpid Quartz, in the sands of the creek, in small, perfect, 6 sided prisms. (C.)

WEST CHESTER.

Coccolite. (C.)

WEST CHESTER CO.

Granular Limestone passes through this county, in strata, dipping to the S. E. at about 65°, and is connected with that extensive deposit of granular limestone, which accompanies primitive rocks from Canada, through the western parts of New England.*Sulphuret of Molybdena. (C.)* See Bronx Creek, Morrisiana, Rye, Sing Sing, Tarrytown, and West Farms.

WEST FARMS.

Marble, often containing grains of quartz, which cause it to give fire under the chisel.

Phosphate of Lime. Apatite, near, of various colors in granite, and in small, white prisms in gneiss.

Rose Red Quartz, near.

Mica, near, in greenish yellow, 6 sided tables, 6 inches in diameter.

Epidote, near, abundant, in mica slate, in granular masses, which sometimes contain perfect crystals in their cavities.

Stilbite, near, in radiated, bladed crystals, or in imperfect crystals confusedly aggregated, in veins traversing gneiss; color, from pale to deep red. Also at the same place near Bronx Creek, in white, 6 sided tables, in an aggregate of epidote, hornblende, quartz, and carbonate of lime.

Glassy Tremolite, near, in quartz.

Silico-Calcareous Oxide of Titanium, near, in very small, reddish brown, oblique angled, 4 sided prisms, in a gangue of

Compact Feldspar. (C.) See Bronx creek.

Garnet, in granite. (W. Green.)

WESTMORELAND.

Sulphuret of Lead, and

Sulphuret of Zinc, in a quarry in the N. W. corner of Westmoreland, 3 m. S. of the canal at Rome, in millstone grit. (Sil. 8.196.)

WEST POINT.

Sulphur, pulverulent, and greyish, in the cavities of a ferruginous, granitic rock.

Sulphuret of Molybdena, (C.) in granite and gneiss; and on Constitution island, opposite the Point. (Sil. 7.57.)

Green Augite, near Fort Putnam, in imperfect crystals of a large size, and considerable quantities of the

Green Corcolite variety, in gneiss rock, in which are also imbraced beds of

Black Mica.

Serpentine, the most beautiful specimens in

Calcareous Spar are found at the meeting of the gneiss and hornblende stratum, 3 m. N. of the Military Academy.

They appear like grass green gems set in masses of pearl.

Lamellar Hornblende, very dark color, in vast quantities, in the form of veins traversing the hornblende rocks.

Granulated Iron Ore abounds in the gneiss rocks of these mountains, containing small crystals of

Phosphate of Lime, together with the

Carburet of Iron. (Sil. 5.233.)

Kaolin, from decomposed feldspar, accompanying quartz.

Tremolite, glassy and fibrous, or asbestiform, in sienite.

Schorl, in granite.

Adularia, in granite rock.

Garnets, in gneiss, and imbedded in mica slate.

Glassy Actynolite, in the vicinity.

Magnetic Oxide of Iron, on Constitution island. (Sil. 7.57.)

Epidote,

Siliceous Slate, and

Basanite, or *Lydian Stone*.

Diallage, more or less metalloidal.

Ferruginous Sand. (Sil. 7.58.)

Lamellar Pyroxene is found abundantly, 3 m. above West Point, on the W. side of the river, and near to the water's edge, associated with hyaline quartz, black and brown colored mica, and feldspar, the latter in small quantity. These minerals form an aggregate of limited extent. The lamellar Pyroxene of West Point is identical in all its characters, both external and chemical with that mineral of Brandywine, (Delaware,) which was first considered to be *Hypersthene*, and described as an *Amphibole*, by Mr. H. Seybert, in *J. A. N. S. P.* 2.139, and to which Mr. Nuttall and Dr. Torrey have proposed to give the name of *Maclurite*, in *Sil.* 5.246. & *Sil.* 5.336. (*J. A. N. S. P.* 3.68.)

Black Spinelle, $4\frac{1}{2}$ m. W. from the Military Academy, in Cornwall, near Kronkite's tavern, in rounded grains, about the size of a pin's head, disseminated in limestone, in great abundance.

Brucite, of a greyish brown color, partially crystallized, occurs in the same specimens with the spinelle, in great abundance.

Coccolite, blackish green, in granular concretions, occurs within a few rods of the spinelle and brucite.

Augite, 2 m. W. from the Military Academy, by the road side, towards Kronkite's tavern, in great abundance, both crystallized and compact; most of the crystals are 8 sided prisms.

Epidote occurs massive, with the augite; color, light green.

Silico-Calcareous Oxide of Titanium occurs with the augite and epidote, through which it is disseminated in a crystalline form; some crystals are very fine and large.

Coccolite, dark green, $3\frac{1}{2}$ m. S. from the Military Academy, near the road side, towards Fort Montgomery, in limestone, abundant. (*Horace Webster.*)

WHITE CREEK.

Sulphuret of Lead. (*Sil.* 7.254.) (?)

WHITEHALL.

Calcareous Tufa, deposited from the water of springs. (*H. M. Wells.*)

WILLIAMSON.

Lenticular Argillaceous Oxide of Iron, in insulated masses, or extended in beds, in alluvial deposit, often containing very perfect fossil shells, and yields about 30 per cent. of iron. (C.)

WILLSBOROUGH.

Schaalstein.

Colophonite, (C.) 3 m. W. from the falls, forming a perpendicular vein, 5 feet wide at its superior part, narrower as it descends, embracing a vast quantity of tabular spar, in which are sparingly disseminated small, and extremely delicate crystals of

Green Augite. The latter walls of this vein, which penetrates a hill, several hundred feet in height, and about a m. in diameter, N. and S. are hornblende rock, and

Massive Garnet. Hundreds of tons of the colophonite may be obtained by blasting; colors, red, yellow, and deep brown, all which frequently appear in the same specimen, very brilliant. (*J. A. N. S. P.* 2.186, & *Hall.*)

WILTON.

Compact Limestone, dark blue color. (*Steel.*)

WOODSTOCK.

Coal, in a perpendicular ledge of grey wacke slate, on the eastern face of Catskill mountain. (*Sil.* 6.95.) Several other veins have been discovered in the same mountain. (*Sil.* 6.96.)

Fuller's Earth, grey, friable. (*Hall.*)

NEW JERSEY.

Phosphate of Lime, Apatite, is found in most of the mines of magnetic iron, often in yellowish white, or reddish grains. *Steatite*, on the Delaware, opposite Easton, white and suitable for architecture.

Peat.

Native Silver, ramous or branched, has been observed in this state.

Sulphuret of Copper, in a red sandstone formation, accompanied with *Oxide* and *Carbonate of Copper*.

Sulphate of Iron is manufactured from the sulphuret of iron.

Magnetic Oxide of Iron, in the primitive mountains, which extend from N. E. to S. W. through the northern parts of the state to the vicinity of the Delaware river.

Granular Argillaceous Oxide of Iron, in the southern parts of the state, in a ferruginous clay.

Bog Ore, in the S. western parts of the state; its several varieties are abundant,—renewed in 20 years.

Phosphate of Iron occurs in druses of green, lenticular crystals in bog iron ore, and is usually accompanied by the earthy variety in this state.

Franklinite, accompanying the

Red Oxide of Zinc. (C.)

Amber was found near the Delaware, in West Jersey, in detached pieces of near 1 lb., yellowish, nearly transparent. 1762. (Sil. 5.256.)

ALLENTOWN.

Earthy Phosphate of Iron occurs here, and in Monmouth Co. and various other parts of the state. It generally accompanies bog ore, or certain argillaceous deposits; sometimes in masses weighing 30 lb. or more. (C.)

Earthy Marl, with organic remains. (I. Lea.)

ANCOCUS CREEK.

Green Earth. (C.)

ANDOVER FURNACE.

Torrelite, a dull vermillion red,—granular fracture, intimately connected with, and disseminated through the
Iron Ore of the Andover mine, once famous for producing the best iron in N. America. (*A. L. N. H. N. Y.* 1.37.)

AQUACKINOCK.

Carbonic Acid, iron, and
Muriate of Soda, near, in a mineral spring. (*Sil.* 2.194.)

ASBURY.

Hornstone, near, and in various parts of the state, where limestone abounds. (*C.*)

BATSTO.

Yellow Earth. (*C.*)

BERGEN.

Feldspar, crystallized, in the mural precipices of coarse greenstone, which border the eastern section of the peninsula, below Bergen village, towards Staten island, filling fissures 6 inches wide. (*Sil.* 2.183.)

BERGEN CO.

Red Oxide of Titanium, near Schuyler's copper mines, in an insulated mass of bluish quartz in hexahedrons, steel grey.
Sulphuret of Iron, in the Highlands. (*Sil.* 2.268.)

BORDENTOWN.

Potter's Clay, of good quality, from this to New Castle, on the banks of the Delaware.
Variiegated Clay, near. (*C.*)

BOUNDBROOK.

Compact Malachite, near, in trap rocks. (*C.*)

BURLINGTON CO.

Marl, abundant, sometimes greenish, and contains
Sulphate of Iron, and shells, &c.
Hematitic Brown Oxide of Iron, in the N. parts of the county, mammillary, and ploughed up in the fields. (*C.*)
Argillaceous Iron Ore, yellowish brown, earthy, entirely loose,

NEW JERSEY.

161

in large quantities, near Burlington, and highly valued as an ore. (*I. Lea.*)

CAMDEN.

Amber, a transparent specimen, almost white, and several inches in diameter, has been found in a stratum of gravel. (C.)

COLD-SPRING LANDING.

Quartz, and a green substance, apparently augite, or coccolite in gneiss, near.

Augite, abundant, in the gneiss rocks.

Silico-Calcareous Oxide of Titanium, in augite.

Black Mica, in augite. (*Sil.* 6.250.)

COMPTON HILL.

Pyroxene, about 16 m. N. W. from the falls of the Passaic, in *Carbonate of Lime*. (*J. A. N. S. P.* 3.115.)

CROSSWICK'S CREEK.

Amber, on the creek, 4 m. from Treuton, in alluvial soil,—yellow and whitish, in grains. or small masses, seldom exceeding an inch in length, resting on lignite, or even penetrates it, and is sometimes connected with pyrites.

Lignite The stratum of lignite, which contains the amber, rests on a coarse, ferruginous sand, and is covered by a soft

Bluish Clay, embracing masses of

Sulphuret of Iron. Above the clay is a bed of sand.

Crystallized Phosphate of Iron, on the creek, near Allentown, sometimes in folia, radiating in small masses, externally blue, but within greenish, soft like talc, and semitransparent. (C.)

Bituminous Wood.

Indurated Grey Marl, containing organic remains. *Amber*, rare, 1 m. from Bordentown, with pyrites, and *Carbonized Wood*, with organic remains. (*I. Lea.*)

FORT LEE.

Calcareous Spar, in acute rhombs with quartz. (C.)

Sulphuret of Iron, and

Micaceous Oxide of Iron.

Pyritous Copper, and

Green Carbonate of Copper, in a vein, in quartz, and a siliceous and calcareous breccia. (*Sil.* 2.184.)

Quartz, with rhombic cavities, in the breccia, once filled with rhombic crystals of calcareous spar, doubtless, as that is now found imbedded and detached.

Crystals of Quartz, small. (*Sil.* 5.288.)

FRANKLIN.

Fluate of Lime, near, disseminated in

Lamellar Carbonate of Lime, and is accompanied by mica, and Carburet of Iron.

Zircon, in an aggregate of decomposing feldspar, hornblende, quartz, and epidote.

Red Oxide of Zinc, in the iron mine; it also assumes a micaceous form, and is imbedded in a *Whitish Oxide of Zinc*. (*C.*)

Shot Ore, used as a substitute for shot, found in company with the red oxide of zinc. (*Sil.* 5.41.)

Franklinite forms a bed here, which appears like a black mountain mass, at least 30 or 40 feet wide, occasionally presenting cavities lined with regular, octahedral crystals. (*Sil.* 5.242.)

Magnetic Oxide of Iron, rich, intimately blended with graphite, on the spot where the furnace stands. (*Sil.* 5.243.)

Franklin furnace is in Sussex Co., about $7\frac{1}{2}$ m. N. E. of Sparta, 2 m. S. W. of Hamburg, and 11 m. E. of Newton, or Sussex Court house. (*J. A. N. S. P.* 2.279.)

Brownish Yellow Garnet, here forms a bed, or vein, 6 feet wide, or more, and when occasionally in contact with carbonate of lime, exhibits imperfect dodecahedrons, of a lustre and color almost similar to idocrase. *Garnet*, in beautiful opaque, blackish brown masses, of a high resinous lustre, and crystallized on the surface, accompanied by a laminated

Epidote, in a ledge of imperfect sienitic granite, which lies in the

Crystalline Carbonate of Lime, which prevails to the E., contiguous to the great bed of Franklinite. Near the same locality is one or two veins of

Augite, nearly white, and compact, massive, or minutely lamellar, in some parts intimately blended with specks of violet, granular

- Feldspar**, resembling petrosilex ; also
Silico-Calcareous Oxide of Titanium, **Brown Garnet**, dark green, granular augite, like the coccolite of lake Champlain ; something of nearly the same color, which may prove the **Gahnite**, occasionally in octahedrons, and pale bluish green, prismatic and translucent crystals which are probably
Phosphate of Lime. These veins are contiguous to the junction of the sienitic granite, and carbonate of lime, before mentioned, and they stand up in crests from the carbonate of lime, in which they are imbedded. (*Sil.* 5.243.)
Automalite, mentioned above as gahnite, occurs in regular octahedrons, imbedded in talcose rocks. (*J. A. N. S. P.* 2.249.) A little distance from the before mentioned vein there is another, apparently much broader in its dimensions, being a mixture of green feldspar, black hornblende, grey quartz, whitish augite, mica, and occasionally sphene. In the cavities of this vein, and often considerably below the surface, is found
Spinelle, (ceylanite,) in bluish green octahedrons, in considerable abundance, in size from a pin's head to $\frac{1}{2}$ an inch in length. In these cavities they are commonly associated with augite crystals, quartz, hornblende, green feldspar, crystals of phosphate of lime, and in some specimens imbedded mica,
Arsenical Pyrites, and traces of galena. These specimens bear an astonishing resemblance to those of Vesuvius, containing ceylanite.
Brucite, or **Chondrodite**, though abundant at Franklin, it is here opaque, and of a deeper tinge of color than at the town of Sparta, where the finest and clearest masses are obtained. It occurs thickly disseminated, often towards the base of the calcareous beds, and contiguous to foreign infiltrations, or veins. A m. S. of Franklin furnace it is imbedded in a grey, massive augite, accompanied by mica, and **Fluate of Lime** ; the blue fluat here forms slender inclinations in the marble.
Tremolite occurs near to the last mentioned spot, and small, imbedded crystals of white augite, and
Actynolite ; short crystals of augite, almost black are also now and then visible ;
Green Feldspar, of a beautiful apple green, occurs imbedded in the crystalline carbonate of lime, accompanied by

Mica, in perfect crystals, and

Graphite, in hexagonal plates.

Hornblende, a very brilliant pale green passing into actynolite, is often found massive, and in imlicated, crystalline, confused crusts over the surface of the calcareous beds. This hornblende considerably resembles the *supposed* hypersthene of Delaware. It forms a new species, to which it is proposed to give the name of

Maclurite; in fusibility, hardness, color, lamellar texture, metallic brilliancy, and specific gravity it is scarcely to be distinguished from the greenstone. (*Sil.* 5.246.) *Maclurite*, analyzed by Mr. Seybert, was decided to be *Brucite*. (*Sil.* 5.336, & 5.366.) This mineral is identical in all its characters, both external and chemical, with the supposed hypersthene of Brandywine, (Delaware,) both of which are now ascertained to be *Lamellar Pyroxene*. (*J. A. N. S. P.* 3.68.) See West Point, N. Y.

Jeffersonite. (*J. A. N. S. P.* 2.188.) This mineral is ascertained, from cleavage and analysis, to be a variety of pyroxene. (*A. L. N. H. N. Y.* 1.3, & *J. A. N. S. P.* 3.105.)

Green Augite, enormous crystals in hexahedral and octahedral prisms, are found near the junction of the granite and crystalline carbonate of lime, accompanied with large

Crystals of Feldspar,

Scapolite, or *Wernerite*, and something which borders on

Spodumene. On the margin of the Mill pond, at the furnace, a vein of arsenical pyrites, mixed with what resembles the sulphuret of cobalt or nickel, with a substance somewhat like blende was found, accompanied by the chondrodite.

Argillaceous Fluato of Lime? nearly or quite opaque, in numerous, and generally amorphous, dull, greyish blue nodules, imbedded in another limestone, abounding with sphene, dark colored granules, and minute crystals of augite.

Secondary Limestone, near Dr. Fowler's house, containing organic remains, and layers of

Black Hornstone, or petrosilex. This rock, as well as the grauwacke beneath, presents disseminated crystals of *fluato of lime*. In the limestone, the cavities are sometimes very numerous, and lined both with pseudomorphous masses, and cubes of blue and white fluato, and

Quartz Crystals. (*Sil.* 5.244 to 247.)

Yttrio-Cerite, discovered by Col. Gibbs. (Sil. 6.379.)

Corundum.

Vesuvian.

Tourmaline.

Blue Carbonate of Copper.

Green Carbonate of Copper. (J. A. N. S. P. 2.287.)

White Sulphuret of Zinc, in octahedral crystals.

Beryl, fine apple green color in the form of peridocahedral prisms imbedded with brucite in carbonate of lime; also the phosphate of lime of an asparagus green color, some of them $\frac{1}{4}$ an inch long, and are associated with green actynolite, and *scapolite*; all these occur near Franklin. (J. A. N. S. P. 3.224.)

Siliceous Oxide of Zinc, in hexagonal prisms, with dihedral terminations, associated with garnet, pyroxene, &c.

Carbonate of Zinc, (calamine,) besides coating the red oxide of zinc, it is found in very small veins, or fissures, in the Franklinite, N. E. of the furnace. (J. A. N. S. P. 4.8)

Oolite, and

Coccolite; black and green. (G. W. Carpenter.) See Stirling.

GREENPOND. See MORRIS CO.

HADDONFIELD.

Marl. (I. Lea.)

HAMBURG.

Carbonate of Lime.

Fluate of Lime, on the turnpike to Pompton, in a vein of quartz and feldspar.

Graphite, foliated, and very flexible, in foliated limestone.

Sulphuret of Zinc. At this place, blende is associated with

Magnetic Oxide of Iron.

Oxide of Manganese, near. (C.)

White Graphite, western base of the Highlands, in limestone. (Sil. 5.265.)

Sulphuret of Molybdena, $4\frac{1}{4}$ m. from Hamburg, imbedded in a mineral which is probably a variety of

Augite. The molybdena occurs in laminæ, sometimes more than an inch in diameter. Beautiful massive, blue fluat of lime, same locality. (Sil. 5.401.)

Scapolite, containing graphite.

Brucite. (Sil. 6.250.)

HOBOKEN.

Magnesian Limestone forms veins from 1 line to 1 foot wide, traversing serpentine, very white, sometimes granular, generally very compact, resembling opaque quartz.

Pulverulent Carbonate of Magnesia, in horizontal veins, nearly 2 inches wide, traversing serpentine, which here presents a mural precipice from 60 to 100 feet high; the carbonate occurs at about the middle height.

Nemalite, or *Amianthoid Magnesite*, in the serpentine rocks, pale blue, resembling amianthus.

Amianthus, pale green, with a satin lustre, in serpentine.

Hydrate of Magnesia, in veins, from a few lines to 2 inches thick, traversing the serpentine in various directions.

Serpentine. It forms an insulated mass, and constitutes a great part of the promontory, dark green; it contains small grains and crystals of chromate of iron.

Indurated Talc.

Chromate of Iron, in octahedral crystals, in serpentine and other magnesian rocks; it also occurs granular and amorphous.

Chromate of iron is occasionally found from Bare Hills, near Baltimore, extending N. easterly through Pennsylvania, New Jersey, and New York to Milford, in Connecticut. (C.)

Marmolite, in narrow veins in serpentine. (Sil. 4.19.) This mineral, possessing no specific difference from serpentine, may be called, with propriety, *lamellar serpentine*. (J. A. N. S. P. 3.129.)

HUNTERDON CO.

Graphite. (C.) See Trenton.

IMLAYTOWN.

Green Earth, near. (C.)

Phosphate of Iron, *Hydrate of Iron*, crystallized and massive, and in considerable quantities, near. The crystals are translucent, and have a laminated and radiated appearance; color dark blue.

Earthy Marl, imbedding organic remains. (I. Lea.)

LIVINGSTON.

Radiated Zeolite. (Sil. 7.58.)

LONG HILL.

Prehnite, in a greenstone range, which commences near Chatham, and extends 10 m. (*Sil.* 2.197.)

MAURICE RIVER.

Sand, suitable for the manufacture of flint glass. (*Sch.*)

MONMOUTH CO.

Earthy Marl, abundant.

Earthy Phosphate of Iron, in this county, and various other parts of the state. (*C.*) See Allentown, and Navesink Hill.

MORRIS CO.

Arragonite, at the Succasunny mine.

Phosphate of Lime, asparagus stone, near Green pond, in *Sulphuret of Iron*. (*C.*) An extensive bed of sulphuret of iron lies near the eastern base of Copperas mountain, nearly opposite to Green pond. (*Sil.* 5.28.)

Magnetic Oxide of Iron. The bed is nearly perpendicular, and has been worked to the depth of 100 feet. (*C.*)

Native Magnet is found near Ramapough works, and at Succasunny. (*Sil.* 5.26.)

Sulphuret of Lead has been seen in the greywacke ranges adjacent to Green pond.

Red Oxide of Zinc is abundant in the Highlands. (*Sil.* 5.30.)

Sulphate of Iron, near Green pond, where copperas was manufactured during the late war. (*Sil.* 5.265.)

NAVESINK HILLS.

Alum, in white granular concretions, on argillaceous strata.

Columnar Argillaceous Oxide of Iron. (*C.*)

Marl. The marl district extends from these hills to the Delaware, and is in width about 12 m. (*Sil.* 6.239.)

NEWARK.

Prehnite, near Newark bay; it occurs in light green, radiated masses, sometimes one foot in diameter; sometimes it is almost compact, (*C.*) in ledges of fine grained greenstone that border the eastern shore of Newark bay,—for several miles. (*Sil.* 2.183.)

Peat, in considerable quantities; used as fuel for 20 years.
(Hall.)

NEWTON.

Sulphate of Barytes, near, both in lamellar masses and tabular crystals, in a vein traversing
Limestone, and in its vicinity are found detached masses of the sulphate of barytes, containing a spheroidal nucleus of
Chalcedony, quartz, limestone, &c. 5 or 6 inches in diameter.
Silico-Calcareous Oxide of Titanium, imbedded in
Lamellar Carbonate of Lime, with
Graphite. (C.)

PAQUANACK MOUNTAIN.

Satin Spar, near Pompton plain, in narrow veins, in
Jasper, which is found in secondary greenstone.
Amethyst.
Chalcedony, in secondary greenstone, or in detached masses, with quartz and jasper. (C.)
Crystals of Quartz,
Smoky Quartz,
Radiated Quartz,
Agate, from the size of a pin's head to 3 lb. Sometimes the-
eyed and fortified agates.
Prehnite,
Zeolite, and
Analcime, are found imbedded in the summit rocks, generally in decaying greenstone, in the range adjacent to Pompton plains. (Sil. 2.197.)
Sulphate of Iron. (Sil. 5.267.)

PATTERSON.

Siliceous Borate of Lime, Datholite, near the Falls in the Passaic. The crystals are usually aggregated, and partly engaged in their gangue, transparent, pale green, sometimes almost white, associated with stilbite, analcime, prehnite, &c. in a rock, which appears to be a decomposed amygdaloid.
Radiated Quartz, near the Falls, in greenstone.
Amethyst, in greenstone, sometimes in 6 sided, transparent prisms, more frequently in imperfect prismatic crystals, or in groups of long, slender prisms, which sometimes radiate from a centre.

Agate, near, in greenstone, and in most of the greenstone hills of the state.

Prehnite, in secondary greenstone, where it forms fibrous masses, on the surface of which it appears in small crystals.

Stilbite, in secondary greenstone, both in crystals and globular masses, often associated with prehnite.

Zeolite, in greenstone; its crystals sometimes traverse prehnite.

Analcime, in greenstone, and a decomposed mineral resembling wacke, associated with

Calcareous Spar, zeolite, datholite, and prehnite; it is amorphous and in crystals.

Green Earth, in amygdaloid, where it occurs in oblong, or spheroidal masses, containing a nucleus of carbonate of lime. (C.)

Bituminous Coal, near, and in several places near the Passaic, in thin layers connected with sandstone, and

Shale. (Sil. 2.190.)

Mesotype,

Chabasie, stilbite, and prehnite, in nodules, and agates, are found in the dispersed cavities of the trap, and in one locality fine crystals of datholite. Some of the cavities of this amygdaloid, which resembles the toadstone of Derbyshire, are lined with crystallized carbonate of lime, and small, greenish crystals of datholite; others are exclusively lined with druses of

Chlorite, crystallized or lamellar. (Sil. 5.239.)

Carbonate of Copper, with

Quartz, in radiating groups. (Sil. 5.268.)

PAULIN'S KILL.

Sulphate of Barytes, on the W. side of Paulin's Kill, not far from the locality in Newton, in a vein traversing limestone. (C.)

FINE BARRENS.

Agatized Wood. It is susceptible of a good polish. (C.)

PLUCKEMIN.

Copper Ores; new shafts have been recently sunk, near, at an old copper mine. (Sil. 2.198.)

POMPTON PLAINS.

Granular Limestone, westerly, in primitive rocks.

Serpentine, N. W. from, in primitive rocks, associated with

Talc, and

Asbestos.

Granular Argillaceous Oxide of Iron, at the southern part of Pompton Plain it is explored and mixed with the harder oxides of iron. (C.)

Peat. Pompton Plain is marshy, and embraces about 1500 acres of peat ground. (Sil. 2.196.)

Sahlite, pale green, in abundant masses, connected with a beautiful white carbonate of lime, or marble, contiguous to a formation of diaphanous

Serpentine, greenish yellow, traversed like that of Newburg, with

Amianthus, in silky seams, contiguous to the western declivity of the Pompton mountains.

Labrador Feldspar, in the vicinity of the hills of Pompton, in a large rounded mass, sparingly mixed with hornblende. (Sil. 5.241.) See Stony Brook Mountains.

PAULUS HOOK.

Agate, a rolled mass was found near. (Sil. 1.336.)

PRACKNES MOUNTAIN.

Chalcedony, sometimes invested by an opaque, mammillary, white coat, which appears to be

Cacholong.

Coal exists in thin layers, connected with sandstone and *Shale*. (C.)

PRINCETON.

Phosphate of Alumine, *Wavellite*, is said to have been found, in a bed of *Clay Slate*.

Crystallized Quartz is not uncommon, but the crystals are generally imperfect, and not very transparent.

Siliceous Sand, a very excellent bed, used for mortar, is near the road side, S. E. of the village.

Agatized Wood, specimens of *recently* petrified wood are sometimes met with, lying on the surface.

Clay Slate, a bed, very proper for building stone, crosses the road at the N. end of the town.

Shale, along the margin of Stony brook.

Yellow Earth is found on the side of a hill in the neighbourhood; it is used for painting, and is considered as a *very good* substitute for the *tena de sienna*.

Sulphuret of Iron, cubical crystals are found imbedded in shale, along the margin of Stony brook. (*Sil.* 5.254.)

RUTGERS.

Red Oxide of Zinc, at the iron mine. (C.)

SCHOOLEY'S MOUNTAIN.

Native Magnet, (C.) very abundant; also

Magnetic Oxide of Iron. Furnaces are in operation in the eastern and western districts of the chain.

Limestone, towards the foot of the hills, skirting the valleys along, quarried for making lime.

Flint, in detached masses, along the vallies and side hills, of excellent quality, and very abundant.

Petuntze ? feldspar, very abundant. (*Bruce*, 73.)

Siderographite. A new mineral resembling graphite, consisting of metallic iron, 54.25, and graphite 11.50, (*Sil.* 2.370.)

SCHUYLER'S COPPER MINE.

Calcareous Spar, in short 6 sided prisms, with 3 sided summits, and in double 6 sided pyramids.

Native Copper.

Sulphuret of Copper, in a red sandstone formation, accompanied with the

Red Oxide of Copper, and

Carbonate of Copper. The ore is considerably abundant here; some shafts were sunk 300 feet deep.

Blue Carbonate of Copper.

Fibrous Malachite, in emerald green groups of crystalline fibres, diverging from a point, or in tufts of short fibres, resembling velvet. It is sometimes associated with *Sulphuret of Copper*, and *Carbonate of Lime*.

Compact Malachite, in mammillary concretions, and sometimes accompanied by red oxide of copper.

Sulphuret of Zinc. (C.)

Dogtooth Spar, filling veins. This mine is 1 m. E. of Bellville. (*Sil.* 2.194.)

SCOTCH PLAINS.

Sulphate of Barytes, near, in elongated, tabular crystals with *Limestone*, in greenstone.

Prehnite, in secondary greenstone, where it forms fibrous masses, on the surface of which it appears in small crystals.

Stilbite, in foliated and fibrous masses, in greenstone.

Zeolite, in greenstone. (C.)

SNAKE HILL.

Micaceous Oxide of Iron, near, N. from the Raritan, in grey sandstone. (C.)

SNUFFTOWN.

Compact Feldspar. (C.)

SOUTH AMBOY.

Alum, in considerable quantities, on

Potter's Clay, which occurs in large quantities, greyish white, adheres to the tongue, is infusible, and is much employed in the manufacture of stone ware, and crucibles. (C.)

SPARTA.

Ferruginous Carbonate of Lime.

Brucite, in white foliated

Limestone, which rests on gneiss, and contains graphite and mica.

Garnet, amorphous, brownish yellow, accompanying the *Franklinite*.

Graphite, near, foliated and very flexible, in foliated limestone.

Hepatic Sulphuret of Iron, near, in masses, which break into large regular tables.

Sulphuret of Zinc, the yellow variety is accompanied by graphite.

Red Oxide of Zinc, near.

Ferruginous Oxide of Titanium.

Maclurite, near, in carbonate of lime. This mineral is ascertained to be *brucite*. (C.) See Franklin.

Compact Grey Limestone, in many places between this and Hamburg, near the base of the mountains, resting on primitive rocks. (Sil. 5.30.)

Shot Ore, so called, from its being used as a substitute for shot, near, in company with the red oxide of zinc. (Sil. 5.41.)

Franklinite, in the valley of Sparta. The eastern bed appears like a black mountain mass, at least 30 or 40 feet wide. This mineral occasionally presents cavities lined with regular octahedral crystals. This bed of Franklinite continues 7 m. in its whole range. (*Sil.* 5.242.) See Franklin and Stirling. Chondrodite, or brucite, disseminated in masses usually about the size of a hazle nut, more or less of a rhombic form, throughout a white and foliated limestone, generally containing scattered hexahedral laminæ of graphite, and more rarely

Phosphate of Lime, in bluish, pellucid crystals. Brucite is by no means uncommon throughout the valley of Sparta; but the finest and clearest masses are obtained at the town of Sparta. (*Sil.* 5.245.)

Jeffersonite. It has a great resemblance to pyroxene. (*Sil.* 5.402.) This mineral is ascertained, from cleavage and analysis, to be a variety of pyroxene. (*Sil.* 7.145.) & (*A. L. N. H. N. Y.* 1.3.) See Franklin.

Diallage. (*J. A. N. S. P.* 2.288.)

Siliceous Oxide of Zinc, in hexagonal prisms with dihedral terminations. (*J. A. N. S. P.* 4.8.)

STIRLING.

Red Oxide of Zinc, (*C.*) 3 m. from Franklin furnace, forming a mountain mass or huge cliff, in which are thickly imbedded crystals of

Franklinite, forming a metalliferous porphyry. On the sides of the seams abundance of octahedral crystals of Franklinite are often well developed, while those of the interior are commonly pseudomorphous.

Carbonate of Zinc appears in numerous illinitions throughout the interior of the mass. This ore merely pounded and mixed with copper has been profitably employed for making brass.

Magnetic Oxide of Iron, in beds, accompanied by hornblende rocks, often within a few feet to the W. of the Franklinite bed. (*Sil.* 5.242.) **Red Zinc Ore**, improperly called **Red Oxide of Zinc**, in Franklinite, occurs in several places, but in greatest quantity, and in the purest state at Stirling. (*J. A. N. S. P.* 4.7.) **Franklinite** occurs in the largest crystals at Stirling; smaller and most numerous at Franklin. (*J. W. W.* 2.135.)

WANTAGE.

Silico-Calcareous Oxide of Titanium, in yellow, flat, rhomboidal prisms, with trihedral summits, sometimes transparent, imbedded in an aggregate of hornblende and feldspar, which constitutes a vein, traversing a granitic mountain. (C.) This vein is from 1 to 3 and 4 feet thick, near Mr. Beamer's, about 12 m. from Hamburg. (Bruce, 242.)

WEHAWK.

Kaolin, near, pulverulent, greyish white, considerably abundant. (C.)

WHITEHILL.

Amber has been found in considerable quantities, on the Delaware at this place, with

Pyrites, and

Carbonized Wood. (I. Lea.)

WOODBIDGE.

Native Copper, in grains and plates, disseminated in a blackish, friable rock. (C.)

Pipe Clay, in extensive beds, in the alluvial tract, situated between Woodbridge and Amboy. (Sil. 2.198.)

WOODBURY.

Jasper, near, of various colors,

Amber, near, in large plates in a bed of

Marl. (C.)

Bituminous Wood, black, and of a perfectly ligneous texture. (I. Lea.)

PENNSYLVANIA.

Limpid Quartz, and

Yellow Quartz, in many places E. of the Blue Ridge.

Aluminous Slate occurs in the western counties.

Shale, with coal and *Anthracite*.

Graphie Slate is found abundantly on the Susquehanna.

Petroleum, in the western part of the state.

Anthracite, on the N. eastern branch of the Susquehanna, and extends E. about 30 m. and W. 2 or 3 m.; also near the heads of the Lahawanock, Fishing, Muncy, Lehigh, and Schuylkill rivers. It extends down the Susquehanna to about 10 m. below Sunbury, and down the Schuylkill to about 20 m. above Reading.

Coal, on the western side of the Susquehanna, extending from near the mouth of the Juniata through all the country watered by the W. branch of the Susquehanna and its streams to Pittsburg, and thence down the Ohio and its streams. The coal of Pennsylvania is said to extend over one third part of the state. (C.)

AARONSBERG.

Black Marble, compact limestone, containing white specks like the Kilkenny marble. (C.)

ABINGTON.

Blue Quartz, near, amorphous. (C.)

ADAMS CO.

Breccia Marble, abundant. (C.) See McKessenburg, and Hamilton Ban.

ALLEGHANY CO.

Common Argillaceous Oxide of Iron, abundant; it is here worked. (C.) See Pittsburg.

ALLENTOWN.

Buhrstone, or cellular quartz, occurs here, and is employed for mill stones. (C.)

ARMSTRONG.

Common Argillaceous Oxide of Iron is here wrought. (Sch.)

BALD EAGLE MOUNTAIN. See FRANKSTOWN.

BALD EAGLE VALLEY.

Sulphuret of Lead, in
Limestone. (C.)

BARREN HILL.

Garnet, 12 m. from Philadelphia, in dodecahedrons, sometimes 5 inches in diameter.

Sulphur, granular, or pulverulent, in reddish white quartz, and originates from the decomposition of
Sulphuret of Iron. (C.)

BEDFORD CO.

Sulphate of Barytes, in large quantities, in secondary rocks, at the W. foot of the Blue Ridge. (C.) See Bald Eagle Valley, Bald Eagle Mountain, and Cumberland Valley.

BETHLEHEM.

Basanite, near. (C.)

BLUE RIDGE.

Quartz, elegantly stained blue and green by carbonate of copper.

Epidote, very beautiful, with green, and other shades of copper scattered in quartz; the blue is prevalent and abundant in the Blue Ridge. Quartz and epidote, with

Green Carbonate of Copper, and

Red Oxide of Copper, and

Native Copper, abundant. (Sil. 5.256.) See Nicholson's Gap.

BRANDYWINE CREEK.

Feldspar, at Dupont's lower powder manufactory, in a trap, or hornblende rock, reddish dark brown.

Hypersthene, same place, in a vein traversing a primitive hornblende rock. (C.) This is now ascertained to be only a variety of Pyroxene. See West Point, N. Y.

BRISTOL.

Flint, on the banks of the Delaware, above Bristol, in rolled

masses, sometimes containing fossil remains; also near the Schuylkill. (C.)

BROAD MOUNTAIN.

Oxide of Manganese occurs on the head waters of Bear creek, Lehigh, and Tobyhannah, sometimes in compact, detached masses, and sometimes porous, or spongy—cellular, the cavities being lined with minute, brilliant globules. (C.)
Limpid Quartz, in perfect, transparent crystals. (Sil, 8.233.)

BUCKS CO.

Graphite, in considerable quantity; good pencils have been made from this graphite in New York. (C.) See Newhope.

BUSTLETOWN.

Graphite, 4 m. from, soft, and of good quality, but traversed by veins of quartz. (C.)

CHESNUT HILL.

Cyanite, near, in mica slate.

Green Mica.

Beryl, 10 m. from Philadelphia.

Magnetic Oxide of Iron, on Wichicon creek, in regular octahedrons, from $\frac{1}{16}$ to $\frac{1}{4}$ an inch diameter, in talcose rocks.

Chromate of Iron. (C.)

Foliated Iron Ore, so called here, frequently occurs in quartz rocks. (I. Lea.)

Garnet, in large, perfect dodecahedrons, abundant. (G. W. Carpenter.) See Easton.

CHESTER.

Green Mica, near.

Schorl, near.

Beryl, near.

Kaolin, 3 m. W. in large quantities.

Pyritous Copper, with

Sulphuret of Molybdena, which occurs near Chester, massive, and in regular 6 sided tables, imbedded in the white quartz of granite. (C.) The sulphuret of molybdena occurs in considerable quantities on Chester creek, near a saw mill, 3 m. W. from the town of Chester, and about 17 m. S. of Philadelphia, in granite, accompanied by

Sulphuret of Iron, and
Phosphate of Lime. (I. Lea.)

CHESTER CO.

Magnesian Limestone, connected with primitive strata, and sometimes contains hornblende.

Smoky Quartz, on the Brandywine, well crystallized.

Blue Quartz, amorphous.

Milky Quartz, 14 m. from Philadelphia, amorphous, which easily separates into very thin laminæ.

Amethyst, 40 m. from Philadelphia, near the Lancaster turn-pike, in large, transparent crystals, of a rich purple.

Cyanite, sometimes in masses of united crystals, 1 foot in length, of a pale blue color.

Epidote.

Tremolite, sometimes with

Carbonate of Lime,

Asbestos, and

Serpentine.

Sulphuret of Molybdena, with

Sulphuret of Iron, and pyritous copper.

Magnetic Oxide of Iron.

Pyritous Copper. (C.) See Goshen, Newlin, and West Chester.

CONCORD.

Pyrope, at Wilcox's paper mill, 1 m. from Concord, color, fine dark red.

Actynolite, in large masses of an emerald green color. (C.)

CONESTOGA CREEK.

Brown Spar, with

Adularia, which is transparent.

Sulphuret of Lead, in *Limestone*, accompanied by the

Carbonate of Lead, and

Calamine. Siliceous oxide? or carbonate of zinc? All these minerals occur on Conestoga creek, 9 m. from Lancaster. (C.)

CUMBERLAND VALLEY.

Fibrous Limestone, 15 m. from Bedford, amber colored, and semitransparent. (C.)

DARBY. See DELAWARE CO.

DALAWARE CO.

Amethyst, in transparent crystals.

Cyanite, of a fine blue color, in primitive rocks. On the Springfield road, about 200 yards from Darby bridge, it occurs in tabular, or compressed crystals, from a very light to a dark Prussian blue, in gneiss.

Glassy Actynolite, in Concord.

Chromate of Iron.

Red Oxide of Titanium; its crystals have been found adhering to an insulated mass of

Smoky Quartz, penetrated by the crystals of red oxide of titanium. (C.) See Chester, and Concord.

EAST MARLBOROUGH.

Amethyst.

Beryl.

Tremolite, in masses which are composed of fibres, sometimes 1 foot long.

Red Oxide of Titanium, either loose in the soil, or imbedded in limestone; it has a high, metallic lustre, associated with

Ferruginous Oxide of Titanium, which occurs both massive and in crystals; color, black, in the fissures of

Limestone, with

Calcareous Spar, and quartz. (C.)

EASTON.

Opal, near, strongly characterized, on the banks of the Delaware.

Flint, near. (C.)

Transition Limestone abounds in the vicinity.

Transition Clay Slate.

In the sienitic range, called LEHIGH HILLS.

Prase, $2\frac{1}{2}$ m. from Easton, near the old Philadelphia road.

Tourmaline, in imperfect prisms.

Epidote, compact and crystallized.

Sahlite, 8 m. from Easton by the side of the river road to Philadelphia.

Hornblende, compact and lamellar, with the prase.

Chlorite, compact and crystallized, same place.

Native Magnet,

Common Magnetic Oxide of Iron,

Micaceous Oxide of Iron,
Scaly Red Oxide of Iron,
Compact Red Oxide of Iron,
Ochrey Red Oxide of Iron,
Hematitic Brown Oxide of Iron, compact and fibrous, and
Argillaceous Oxide of Iron. These eight foregoing minerals
 occur in various parts of the Lehigh range.
Titaniferous Iron Sand is found on various parts of the Sienitic hills, after heavy rains.

In the Sienite of CHESNUT HILL, which is near 4 m. in extent, and in the immediate vicinity of Easton, are found

Tourmaline, perfect, in veins with quartz.
Epidote, compact and crystallized.
Manganesian Epidote, in hexahedral prisms.
Sahlue, in small quantity.
Hornblende, compact, slaty.
Chlorite.
Micaceous Oxide of Iron.
Red Oxide of Iron, compact and scaly.
Argillaceous Oxide of Iron.
Chromate of Iron.
Silico-Calcareous Oxide of Titanium.

In the Steatite of CHESNUT HILL.

Calcareous Spar, flesh colored.
Magnesian Carbonate of Lime, compact and crystallized.
Brucite, about 150 yards above Mr. Wolf's quarry, on the opposite shore of the Delaware, crystallized in carbonate of lime.
Zircon, imbedded in talc; found in 3 different localities, but not very abundant.
Mica, lamellar and crystallized in prisms.
Nephrite, in large masses.
Saussurite, bluish green, translucent.
Scapolite.
Schaalstein, in small prismatic concretions.
Tremolite, common, glassy, and fibrous, very abundant.
Asbestos, compact and ligniform.
Amianthus.
Augite, green, imbedded in flesh colored carbonate of lime.
Coccolite, various shades of green.

Hornblende.

Actynolite, glassy and fibrous.

Precious Serpentine, dark green, shades of yellow and green.

Common Serpentine.

Talc, crystallized in large masses, green, white, silvery white, common.

Indurated and Scaly Talc.

Steatite, in large quantities, quarried.

Graphite, granular and foliated, imbedded in talc and tremolite, in different parts of the range.

Red Oxide of Copper, and

Green Carbonate of Copper, in minute portions.

Sulphuret of Iron, in cubic and dodecahedral prisms.

In Transition Limestone.

Calcareous Spar, in hexahedral prisms.

Marble, veined, 4 m. N. W. from Easton.

Agaric Mineral, and

Fossil Farina, occur abundantly in all the fissures of the limestone.

Pearl Spar, in rhombs.

Brown Spar.

Limpid Quartz, crystallized; in some of the ploughed fields these crystals have been abundant.

Hornstone, of various colors, generally black.

In the Diluvial Formation.

Chalcedony,

Hyalite,

Jasper, and

Basanite, or *Lydian Stone*. (Sil. 8.238 to 240.)

EDGE HILL.

Magnetic Oxide of Iron. (C.)

FALLS OF THE DELAWARE.

Semi Opal, near Trenton Bridge, of a bluish grey color, in granite. (C.)

FALLS OF THE SCHUYLKILL. See PHILADELPHIA.

FAYETTE CO.

Common Argillaceous Oxide of Iron is worked in this Co. (C.)

FOX CHASE. See PHILADELPHIA.

FRANKFORD.

Epidote, near, 5 m. from Philadelphia. (C.)

FRANKSTOWN.

Fibrous Sulphate of Strontian, near, in the Bald Eagle mountain, in layers about 1 inch thick, between the strata of a brownish grey slate; color, a fine light blue; no specimens recently obtained. (C.)

GERMANTOWN.

Phosphate of Lime, *Apatite*, in granite and gneiss, accompanied by beryl,

Garnets, and

Schorl.

Asparagus Stone is found in gneiss.

Mica, crystallized in 6-sided tables and prisms.

Adularia in granite, amorphous and transparent.

Beryl, in granite, finely crystallized, (C.); also near, on Mr. C. Peale's farm. (I. Lea.)

Melanite, in gneiss. (C.) This is believed to be only a fine specimen of the common trapezoidal garnet. (I. Lea.)

Garnets are abundant in mica slate. (G. W. Carpenter.)

Manganesian Garnet, fine specimens. (W. Green.)

Serpentine, near, in disseminated; but partly confluent blackish green masses, blended with a greyish green, confusedly laminated tremolite, closely allied to hornblende, precisely resembling the *Fahlunite* of Sweden, except in analysis. (Sil. 4.22.)

GOSHEN.

Native Magnet; its polarity is strong. (C.)

HAMILTON.

Phosphate of Lime, *Apatite*. (C.)

HAMILTON BAN.

Native Copper. (G.)¹

HANOVER.

Smoky Quartz, fine specimens have been found near. (C.)

JENKINTOWN.

Kaolin, near, of good quality, and in considerable quantity.
Hematitic Brown Oxide of Iron, stalactical and mammillary ;
 very beautiful. (C.)

LANCASTER.

Calcareous Spar, 6 m. S., in delicate, acicular prisms, sometimes forming diverging, or radiated groups in the fissures of *Clay Slate*.
Red Oxide of Copper, with
Malachite.
Hematitic Brown Oxide of Iron, near.
Oxide of Manganese, near. (C.)

LANCASTER CO.

Chalcedony, at Little Britain, under various forms, and very beautiful.
Clay Slate. (C.) See Conestoga Creek, and Lancaster.

LONDON GROVE.

Phosphate of Lime.
Yellow Tourmaline, in transparent crystals, with the silico-calcareous oxide of titanium.
Tremolite, in bladed and fibrous masses, very beautiful, in *Granular Limestone*.
Mountain Cork, in granular limestone, and, when in thick layers, is spongy.
Red Oxide of Titanium, crystals imbedded in granular limestone, and associated with
Silico-Calcareous Oxide of Titanium, and yellow tourmaline. (C.) The red oxide of titanium occurs in the granular limestone on Mr. John Jackson's land, crystallized, in prisms, geniculated, angular, and broken pieces, and rolled.
Brown Tourmaline, in carbonate of lime. (I. Lea.)
Serpentine. (Sil. 4.23.)

MENTZER'S GAP.

Yellow Ferruginous Quartz, on the W. side, and at the foot of the South mountain, in loose masses, sometimes composed almost entirely of yellow crystals, size of a grain of rice, uniformly 6 sided prisms, terminated at each extremity by 3 faces. (C.)

MERCERSBURG.

Hematitic Brown Oxide of Iron, stalactical in a cavern. (C.)

M'KESSENBURG.

Breccia Marble, in great quantities. (C.)

MONTGOMERY CO.

Staurotide, on the Schuylkill, 8 m. from Philadelphia, in talcose rocks.

Nephrite, 10 m. from Philadelphia in

Serpentine.

Epidote.

Asbestos.

Chlorite Slate, near the Schuylkill, containing

Octahedral Crystals of Iron, in abundance.

Lithomarge, in serpentine. (C.) See Jenkintown, Norristown, Perkiomen Lead Mine, Pottsgrove, and White Marsh.

MORGANTOWN.

Native Copper. (C.)

MORRIS' HILL.

Melanite, near the Philadelphia water works, well characterized. (C.)

NEW HOPE.

Sulphate of Barytes, 3 m. W., in the old sandstone formation. (C.)

NEWLIN.

Beryl, some of the crystals are well defined, and nearly 3 inches in diameter, and some of them resemble the French beryl of limoge. (C.) An extensive locality of beryl exists 7 m. W. of Westchester, in what is called the Barrens, a serpentine ridge, extending nearly E. and W. with some interruptions through a great part of the state. The beryl is scattered over the surface; for the most part in irregular pieces, sometimes in tolerable crystals, from a few grains to 20 lb. weight. (Sil. 4.39.)

NICHOLSON'S GAP.

Sulphuret of Copper, 2 m. N. on the Blue Ridge.

Compact Malachite, same place. (C.) Handsome porphyry.
(*Sil.* 5.256.) See Blue Ridge.

NORRISTOWN.

Granular Limestone, here, and in several other places not far from Philadelphia.

Limpid Quartz, crystallized, in large quantities, generally aggregated, showing only their pyramids. (*I. Lea.*)

NORTHAMPTON CO.

Yellow Earth occurs near Fort Allen. (C.) See Chesnut Hill, and Easton.

NORTHUMBERLAND.

Sulphuret of Zinc; yellow blende is imbedded in
Calcareous Spar, at Webb's mine, 24 m. from Northumberland. (C.)

NORTHUMBERLAND CO.

Oxide of Manganese. It also occurs on the east branch of the Susquehanna, near where it enters the state. (C.)

OLEY.

Novaculite; it is explored, and sells for 25 cts. a pound. (C.)

PENNSBOROUGH.

Amethyst. (C.)

PERKIOMEN LEAD MINE.

Sulphate of Barytes, lamellar, compact, and earthy, sometimes in thin tables sprinkled over crystals of quartz.

Yellow Quartz, in crystals.

Radiated Quartz.

Native Copper, both massive and dendritic.

Pyritous Copper.

Red Oxide of Copper, in small octahedral, and translucent, capillary crystals.

Blue Carbonate of Copper, in minute, dark blue crystals, in veins, which contain galena and blende, and traverse the red sandstone formation.

Earthy Blue Carbonate of Copper, same place.

Fibrous Malachite.

Compact Malachite,

Scaly Red Oxide of Iron.

Red Hematite.

Hematitic Brown Oxide of Iron, mammillary, and covers crystals of quartz.

Sulphuret of Lead, on Perkiomen creek, 23 m. from Philadelphia; this sulphuret, sometimes granular, is accompanied by the carbonate, phosphate, molybdate and sulphate of lead, yellow blende, several ores of copper, and the scaly red oxide of Iron. The shaft of this mine is about 170 feet deep—and a horizontal drift 300 feet, enters the shaft 80 feet below the surface, in the old red sandstone formation.

Carbonate of Lead, crystallized, and compact.

Sulphate of Lead, in octahedrons, sometimes very large.

Phosphate of Lead, in green prisms, and in reniform concretions, or crusts.

Molybdate of Lead, finely crystallized in small tables, orange, and wax yellow.

Sulphuret of Zinc, the yellow, brown, and black varieties.

Calamine, siliceous oxide? or the carbonate of zinc?

Carbonate of Zinc, in reniform concretions, radiated and compact. (C.)

Arsenical Iron, near, yellowish white.

Limpid Quartz occurs in large quantities, crystallized, generally aggregated, showing only their pyramids. (I. Lea.)

PHILADELPHIA.

Marble; two large quarries are worked within 20 m.

Crystallized Magnesian Carbonate of Lime, 13 m. See Talc.

Phosphate of Lime, Apatite, near, on the canal road. (C.)

It occurs massive, on the Baltimore turnpike, 1 m. from the bridge. (I. Lea.)

Rose Red Quartz, in this county, amorphous, but nearly transparent.

Common Quartz, 4 m. on the Schuylkill, in perfect crystals.

Chalcedony, on the West Chester road, 16 or 17 m. from Philadelphia, bluish milky color, covered with druses of

Yellow Crystallized Quartz, and sometimes contains a hair brown, arborescent substance, associated with quartz in decomposed serpentine.

Flint, in rolled masses, in gravel, near the Schuylkill. (C.)

Also on the shores of the Delaware, of a black color, containing organic remains. (I. Lea.)

Hornstone, about 10 m. from Philadelphia, on the Easton road, greyish white. (C.) Also in the gravel hills, near the Schuylkill, in small pieces, of a fine texture. (I. Lea.)

Jasper, on the shores of the Delaware and Schuylkill, in detached masses, of various colors, and is sometimes traversed by veins of chalcedony.

Cyanite, on the Wilmington road, 11 m. in very dark crystals; on the road to the Lazaretto, it is blue; also about 8 m. up the Schuylkill; also on the Wichicon, 4 m. from its mouth, with staurotide, and garnets, in mica slate.

Staurotide, 12 m. from Philadelphia, in mica slate. Also on the Wichicon, 8 m. from Philadelphia, in 6 sided prisms, with dihedral summits, and is associated with cyanite, and dodecahedral garnets in gneiss. (C.) This locality is on the E. side of a large, steep, uncultivated hill of gneiss rocks; very abundant. (I. Lea.)

Zircon, on the Schuylkill, 14 m. from Philadelphia, imbedded in sienite which rests on serpentine; also, on the York road, 15 m. (C.) Also, on the Schuylkill, about 10 m. from Philadelphia, in a rock similar to that of Trenton. (I. Lea.)

Feldspar, on the W. side of the Schuylkill, a little above the upper bridge, in 10 sided prisms, with dihedral summits. (C.) This is at Judge Peters' quarry. A beautiful white variety is found, about 1 m. up the canal road, E. side, associated with *Crystallized Mica*, and phosphate of lime. (I. Lea.)

Beryl, on the banks of the Schuylkill, 3 m. above the permanent bridge. (C.) Also in a quarry of gneiss belonging to Judge Peters, about 300 yards above the upper bridge on the W. side of the Schuylkill. (I. Lea.)

Manganesian Garnet, 9 m. from Philadelphia, between the ridge road and the Schuylkill, in the soil, brownish red; compact texture, in masses from 1 lb. to 100 lbs.

Common Garnet, on the E. side of Wichicon creek, on the top of a hill, $\frac{1}{4}$ a m. above its mouth, in dodecahedrons. (C.) The best specimens of the dodecahedrons are found on the Wichicon, about 9 m. from Philadelphia. The prismatic garnet is found near the same place. Also $1\frac{1}{2}$ m. above the Falls of the Schuylkill, in very perfect, deep red, trapezoidal crystals, in mica slate. (I. Lea.)

Zoisite, at the end of the canal road, in greyish, acicular crystals, in fascicular groups, in hornblende rocks.

Zeolite, on the Schuylkill, 4 m. from Philadelphia, in the fissures of a hornblende rock, in laminæ $\frac{1}{4}$ of an inch thick, white, with a pearly lustre.

Asbestos, at the end of the canal road, $3\frac{1}{2}$ m. from Philadelphia, in very delicate fibres, on quartz, in hornblende rocks.

Hornblende, on the Schuylkill, near Philadelphia, in large masses, and sometimes in bladed, or acicular crystals, on the canal road.

Actynolite, on the Wichicon, 10 m. from Philadelphia, in green, acicular crystals, in steatite.

Talc, near the Schuylkill, about 10 m. from Philadelphia, in the soapstone quarries, sometimes in laminated, semitransparent masses of a fine green, connected with rhomb spar.

Steatite, on the Schuylkill, 10 m. from Philadelphia, connected with talc, and much employed, under the name of soapstone.

Chlorite, near the Falls of the Schuylkill, foliated, mammillary, and botryoidal, in a hornblende rock. (*C.*) It is found in fine particles with quartz at Willow grove, and laminated, near the soapstone quarry on the E. side of the Schuylkill. (*I. Lea.*)

Kaolin, on Robeson's hill, 6 m. W. from Philadelphia, in granitic rocks; also in several places near Philadelphia.

Potter's Clay, near.

Magnetic Pyrites, near, small quantities, in hornblende rocks.

Chromate of Iron, from 10 to 14 m. from Philadelphia, on the West Chester and Lancaster roads, near the Foxchase, &c. in magnesian rocks; sometimes in small veins, but more frequently in detached masses in the soil, varying from a few ounces to 20 lbs., and in one instance to about 500 lbs. in weight. It is sometimes accompanied by

Magnetic Iron,

Brown Hematite, asbestos, &c. The chromate of iron is worth from \$40 to \$60 a ton in market.

Silico-Calcareous Oxide of Titanium, near the falls of the Schuylkill, 5 m. from Philadelphia, in granite, or gneiss, or in veins of quartz, which traverse these rocks. (*C.*)

Sulphate of Barytes, stained by carbonate of copper, 40 m. N. of Philadelphia. **Zeolite**, 3 m. from Philadelphia.

Sulphuret of Molybdena, 15 m. S. of Philadelphia.

Red Oxide of Titanium, 3 m. from Philadelphia. (*Sil.* 5.41.)

Phosphate of Manganese, near the new water works, in small,

imperfectly laminated masses, imbedded in granite. (*A. L. N. H. N. York*, 1.92.)

Fluate of Lime, amorphous, has been found at the Falls of the Schuylkill, in the quarry of gneiss.

Arenaceous Quartz, on the shores of the river, in large quantities, and in the gravel hills W.

Black Mica, on the Wilmington road, near the woodland, in hexahedral crystals, circumscribed by those of a light brown, and 50 yards E. of the canal road, just beyond the house of Mr. Casper Morris, in large hexahedral plates.

Black Schorl, in most of the granite and gneiss rocks in this vicinity, and more abundant at Judge Peters' quarry, and Sheridan's quarry, near the upper bridge, as well as on the opposite side of the Schuylkill. The finest specimens have been found 8 m. on West Chester road.

Adularia, in the hornblende rocks of the quarry, at the end of the canal road; some specimens are distinctly crystallized.

Epidote, massive, and crystallized in a large piece of quartz, $\frac{1}{4}$ of a m. above the upper bridge, nearly 100 yards W. of the Schuylkill.

Foliated Iron Ore, so called here, on the Wichicon, frequently occurs in quartz rocks $\frac{1}{4}$ of an inch thick. It appears to be a black oxide of iron. (*I. Lea*.)

White Beryl, on the old York road, 5 m. from Philadelphia, in well defined, regular hexahedrons; also yellow, and shades of green, imbedded in granite, rare.

Radiated Steatite, on the Wichicon creek, about a m. above its junction with the Schuylkill, composed of acicular crystals, or fibres, radiating from a centre, forming little tufts irregularly grouped, of a silken lustre, abundant.

Magnetic Oxide of Iron, in octahedral crystals, on the Wichicon, in talcose rocks. (*G. W. Carpenter*.)

PITTSBURGH.

Coal, here approaches the surface, and is sold for about 6 cents a bushel. Coal is said to extend over one third of this state. (*C*.)

Sand, suitable for the manufacture of the best flint glass, at Perryopolis, on the Youghiogeny river, 23 m. above Pittsburgh. (*Sch*.)

POTTSGROVE.

Native Copper. (C.)

READING.

Flint, near.

Basanite, near. (C.)

ROBESON'S HILL. See PHILADELPHIA.

ROXBOROUGH.

Pulverulent Carbonate of Magnesia, disseminated in granite and mica slate, and sometimes appearing in veins and cavities.

Fibrous Talc.

Scaly Talc, in granite. (C.)

SANDERSBURG.

Marble, variegated, in which the darker colors are intersected by white veins, and the lighter colors by dark lines. (C.)

SCHUYLKILL, AND SCHUYLKILL FALLS. See PHILADELPHIA.

SPRING MILLS.

Jasper, near, yellowish, and occurs in considerable blocks. (C.)

Jaspery Iron Ore, in the road near, massive, in considerable quantities. (I. Lea.)

TRENTON BRIDGE. See FALLS OF THE DELAWARE.

UPPER DUBLIN.

Micaceous Oxide of Iron, in hexagonal tables.

Hematitic Brown Oxide of Iron, often in geodes, the interior of which is botryoidal, mammillary, or stalactical, and black. (C.)

UPPER MERIAN.

Semi Opal, leek green and opaque, in

Serpentine. (C.)

WAINE CO.

Clay Slate, on the Delaware, about 75 m. from Philadelphia, of good quality. (C.)

PENNSYLVANIA.

193

WARWICK IRON WORKS.

Chlorite, containing
Sulphuret of Iron. (C.)

WASHINGTON CO.

Common Argillaceous Oxide of Iron is worked here. (Sch.)

WEBB'S MINE. See NORTHUMBERLAND.

WEST CHESTER.

Blue Quartz, about 2 m. W. on the E. side of the Brandywine, containing

Zircon, (C.) in the road, on the opposite side of the creek, from James Jefferis' farm. (I. Lea.)

Asbestos, near.

Serpentine, near, color varying from a light to a dark green. (C.)

WHITE MARSH.

Granular Limestone, on the Schuylkill, 10 to 15 m. from Philadelphia, extensively quarried. (C.)

WICHICON CREEK. See PHILADELPHIA.

WILKESBARRE.

Anthracite appears here at the surface, and forms beds from 20 to 30 feet thick. See Pennsylvania.

Oxide of Manganese, near, crystallized and amorphous. (C.)

Slate, containing vegetable impressions, and sometimes imbedding

Sulphuret of Iron, which readily decompose on exposure to the atmosphere. (Sil. 4.2.)

Pavonine, or iridescent coal, brilliant specimens are abundant, but they are found only in the water, or in moist situations. (Sil. 4.7.)

YORK CO.

Epidote.

Clay Slate in this and Lancaster Co. in strata, extending across the Susquehanna into Maryland. The 3 principal quarries are within 2 or 3 m. of this river, and yield annually about 1600 tons of slate of excellent quality. (C.)

DELAWARE.

Red Oxide of Titanium. (C)

CAPE HENLOPEN.

Agatized Wood, near. (C.)

CHRISTIAN HUNDRED.

Common Asbestos, very abundant in
Serpentine. (C.)

IRON HILL.

Granular Pyroxene. (J. A. N. S. P. 3.124.)

SUSSEX CO.

Bog Iron Ore, in large quantities, among the branches of
Nanticoke river. (Morse.)

WILMINGTON.

Apatite, 6 m. N. W., grass green in *Graphic Granite*, with
Schorl, or *Black Tourmaline*, and
Garnets.

Feldspar, 6 m. N. W. in granite; it is white, often tinged
with red or green, and beautifully striated on the surface
of the broader planes, in the direction of the natural joints.
Hookin, 7 m. below, in granite. (C.)

MARYLAND.

Fetid Carbonate of Lime is abundant on the Alleghany Ridge.

Breccia Marble. An extensive quarry of this marble is opened on the eastern side, and at the foot of the Blue Ridge, on the banks of the Potomac, not far from its junction with the Monocasy, 50 or 60 m. above the city of Washington. The colors of this very beautiful, variegated breccia are white, grey, reddish brown, blackish, &c.

Potter's Clay, S. of the granitic ridge, are extensive beds of white and colored clays, suitable for manufactures.

Magnetic Iron Sand. (C.)

ANNE ARUNDEL CO.

Agatized Wood.

Amber, at Cape Sable, near Magothy river, in grains or masses, sometimes 4 or 5 inches in diameter, usually invested by a rough, greyish coat, associated with

Sulphuret of Iron, in a bed of lignite 3 or 4 feet thick, covered by a stratum of sand. In the same place is found the *Earthy variety* of amber, in small friable masses.

Lignite. The bed is $3\frac{1}{2}$ to 4 feet thick, composed of

Jet,

Brittle Lignite,

Bituminous Wood, and

Brown Lignite; it is penetrated throughout by pyrites, and rests on sand, which also embraces pyrites.

Earthy Lignite, in a bed from 5 to 12 feet thick, containing *Pyritous Wood*, and large fragments of bituminous wood, resting on argillaceous sandstone. (C.)

BALTIMORE.

Sulphate of Strontian, near, small quantities in gneiss?

Granular Limestone, 9 m., white, sometimes semitransparent, and composed of large grains.

Fibrous Limestone near.

Crystallized Magnesian Carbonate of Lime, 21 m. from, in primitive limestone.

Phosphate of Lime, Apatite, 2 or 3 m. on the Falls turnpike, in grains, or hexahedral prisms in granite.

Selenite, near, fine crystals, in small quantities.

Milky Quartz, near, crystallized and amorphous.

Radiated Quartz, 8 m. from, in detached masses.

Tabular Quartz, near. The hills on which Baltimore is built, present immense quantities of pebbles of quartz, arranged in beds of various thickness.

Prase, near.

Fetid Quartz, about 20 m., near the York and Lancaster road, in primitive limestone, with small prisms of the red oxide of titanium.

Chalcedony, 4 m. from Baltimore.

Hornstone, near, with a conchoidal fracture.

Jasper, in detached masses, red, brown, and yellow.

Agate, near.

Cyanite, 20 m. on the Falls turnpike ; its crystals, sometimes 5 inches long, are usually pale green, rather blue, imbedded in a micaceous rock ; sometimes in loose masses, chiefly cyanite connected with quartz ; sometimes associated with staurotide, garnets, and magnetic iron ; also on the same road 7 m. from Baltimore, crystallized and massive.

Staurotide, 7 m. in mica slate, sometimes with cyanite.

Zircon, 2 m. from Baltimore, in granite.

Yellow Tourmaline, near, in minute honey yellow crystals, with yellow mica in primitive limestone.

Black Schorl, at Jones' Falls, in a vein of granite, crystals sometimes more than 3 inches in circumference ; also 8 m. from Baltimore, on the Falls turnpike, in brown crystals, in saccharoidal limestone.

Green Feldspar, near, in granite.

Adularia, W. of Jones' Falls, in granite, at the quarries, of a pure white, reflecting a blue light.

Aventurine Feldspar, near.

Fetid Feldspar, Necronite, 21 m. from Baltimore, in the primitive limestone, of which the monument of Washington is constructed ; associated with brown mica, sulphuret of iron, tremolite, and small, prismatic crystals of the oxide of titanium. *Quartz*, nearly as *fetid* as the necronite, in another quarry of primitive limestone, a few m. distant, associated with small prisms of titanium.

Beryl, near, in granite, crystals in most cases imperfect.

Scapolite, it is said, has been found near.

Allochrouite. A mineral resembling it has been found near.

Epidote, at Jones' Falls, in fine crystals, imbedded in a vein of crystallized feldspar, and chlorite.

Zeolite, at Jones' Falls, in quadrangular prisms, with pyramidal terminations, accompanied by chlorite, feldspar, epidote, &c.

Tremolite, at several places not far from Baltimore, in Carbonate of lime.

Augite, 8 m. on the Falls turnpike, white, in dolomite, with red oxide of titanium; also 5 m. from Baltimore, olive green, or brownish red, broad 6 sided prisms, 5 or 6 inches long; the red crystals are transparent, in a vein of chlorite traversing greenstone, associated with black schorl.

Actynolite, near, all its varieties occur in granite or gneiss.

Talc, near, fibrous, ligniform, &c. and sometimes foliated.

Scaly Talc, near.

Chlorite, near, abundant.

Novaculite, on the Patuxent, near the road to Washington.

Haydenite, $1\frac{1}{2}$ m. from Baltimore, in the fissures of gneiss, associated with zeolite, lenticular carbonate of iron, &c.

Sulphuret of Copper, near.

Sulphuret of Iron, about 20 m., extremely abundant, and the *Sulphate of Iron* is readily efflorescent. Copperas is here manufactured.

Magnetic Oxide of Iron, near.

Specular Oxide of Iron, near, in gneiss; also lamellar in chlorite.

Micaceous Oxide of Iron, near, in primitive rocks.

Hematitic Brown Oxide of Iron, fine specimens are found 17 m. from Baltimore.

Nodular Argillaceous Oxide of Iron forms extensive beds 3 m. S. and W. from Baltimore. These nodules are composed of concentric layers, between which very beautiful, dark brown, lenticular crystals of sparry iron are sometimes found, giving to the surface the rich aspect of velvet.

Carbonate of Iron, near, in lenticular crystals attached to gneiss. Also in the nodular iron as described above.

Sulphuret of Lead, near, forming a vein in primitive limestone.

Sulphuret of Zinc, near, the yellow variety occurs with galena in gneiss.

Oxide of Cobalt, near, connected with oxide of manganese;

it is found in an alluvial deposit of sand, in bluish black masses, of grains of sand, cemented by the two oxides.

Oxide of Manganese, near, in small quantities.

Sulphuret of Molybdena, at the quarries on the Falls turnpike, in granite.

Red Oxide of Titanium, near, light red, prismatic, and laminated, in a yellowish quartz; also 8 m. from Baltimore, with white augite, in dolomite; also about 20 m. from Baltimore, on the York and Lancaster road, in the primitive limestone, which contains the necronite, and fetid quartz.

Crystallized Green Oxide of Uranium occurs near Baltimore.

Earthy Green Oxide of Uranium is said to exist near. (C.)

Crystallized Magnesia? Handsome *Rhomb Spar* is found forming a vein in compact limestone, 9 m. from Baltimore.

Lamellar Quartz, 9 m. from Baltimore. Fine black tourmaline, in veins in gneiss, and elegant brown tourmaline, 20 m. from Baltimore.

Foliated Feldspar, flesh red, very fine, 9 m. from Baltimore.

Mesotype, and

Chabasie, and

Analcime, near. *Apatite*. Red crystals in quartz and feldspar.

Ligniform Steatite, 9 m. from Baltimore. *Brown Hematite*, 13 m. from Baltimore, on the York road. (*Sil.* 5.255, &c.)

Quartz, Crystallized, white and brown of all sizes. (*Bruce*, 225.)

Garnet, on the Falls turnpike, in mica slate. Garnets abound in the neighborhood. (*Bruce*, 226.)

Mica, Crystallized, and foliated, is found in almost every direction. (*Bruce*, 228.)

Bovey Coal, disseminated in the clay of Caton's ore bank, near the Washington road, 3 m. Also 15 m. near the Bodkin Point, in beds. (*Bruce*, 230.)

Silico-Calcareous Oxide of Titanium, disseminated through the granite, at the Falls of Petapsco, 10 m. on the Frederick turnpike. (*Bruce*, 232.)

BARE HILL.

Semi Opal, in thin veins, in serpentine.

Pitchstone, in serpentine, 7 m. from Baltimore.

Asbestus, common, radiated, and ligniform, and

Amianthus, occur in serpentine.

Magnesite? in narrow veins, in serpentine.

Serpentine, chiefly the common variety.

Steatite, several varieties, fibrous, ligniform, &c. in serpentine.

Lithomarge, in serpentine.

Chromate of Iron, all its varieties occur here, and some of them abundantly, in veins, or in masses, in serpentine. The crystals are found in channels, worn by the water in the sides of the hill, and the serpentine is here traversed by veins of

Indurated Talc. The crystals of chromate are mixed with sand, and the granular variety, which occurs either loose or is disseminated in an indurated steatite, or serpentine. The amorphous variety is associated with talc, steatite, &c. in serpentine.

Silico-Calcareous Oxide of Titanium, in feldspar. (C.)

Marmolite, in narrow veins in serpentine. (Sil. 4.19.) As this mineral is chymically the same as serpentine, it can only be considered as a variety, or subspecies,—as

Lamellar Serpentine. (J. A. N. S. P. 3.129.)

Aventurine Feldspar, a fragment was found. (Bruce, 226.)

BLADENSBURG.

Nodular Argillaceous Oxide of Iron, at Bomb Shell hill, near, in nodules, sometimes perfectly globular, from 2 to 8 inches in diameter; the crust has a metallic aspect, interior generally filled with sand,—exposed to heat they burst with explosion. (C.) These nodules occur in size from less than an inch to more than a foot in diameter;—they are sometimes double. (Eddy.)

BLUE RIDGE. See WASHINGTON CO.

BOONSBOROUGH. See WASHINGTON CO.

CAPE SABLE. See ANNE ARUNDEL CO.

FREDERICK CO.

Granular Limestone, near Sam's Creek, containing some *Mica*, and *Talc*; it is primitive.

Marble, red and white, resembling, when polished, some varieties of soap, is wrought here, and sells in a rough state, at Baltimore, for \$2 a cubic foot.

Limpid Quartz, in perfectly transparent crystals, with a splendid lustre, scattered on the surface of the ground.

Aluminous Slate. The E. side of Cotocton range is chiefly composed of it.

Arsenical Nickel, in the copper mines. (C.) See Liberty.

FORT WARBURTON.

Selenite, fine crystals have been found, near, on the Potomac. (C.)

HAGERSTOWN.

Nitrate of Potash. Nitre has been manufactured at Hughe's cave, near Hagerstown. (C.)

White Marble, resembling the statuary marble of Vermont. (Sil. 5.264.)

HARFORD CO.

Common Argillaceous Oxide of Iron.

Chromate of Iron, in *Serpentine*, or in detached masses, in abundance, and of good quality. It thence extends north easterly through Pennsylvania, New Jersey, and New York to Milford in Connecticut. (C.)

JONES' FALLS. See BALTIMORE.

LIBERTY.

Sulphate of Barytes, at Liberty, with grey copper, and *Fluate of Lime*.

Native Copper, 15 m. from Fredericktown, with

Sulphuret of Copper.

Grey Copper has been observed here, with sulphate of barytes.

Antimonial Sulphuret of Lead has been found near Libertytown. (C.)

MOUNT ALTO.

Compact Brown Oxide of Iron, occurs on the Blue Ridge, at Hughe's mine, in stalagmites, or very beautifully dendritic, resembling, in large masses, a grove of trees. (C.)

NEW MARKET.

Marble, intermediate, between dove colored and ash grey; it possesses a fine grain, receives a good polish, and is sold at Baltimore, in a rough state, at \$2 a cubic foot. (C.)

PETAPSCO FALLS.

Silico-Calcareous Oxide of Titanium; its crystals are disseminated in granite, 10 m. from Baltimore. (C.)

PIPE CREEK.

Grey Copper has been observed at Pipe Creek, 18 m. from Baltimore. (C.)

REISTERTOWN.

Chalcedony, 16 m. from Baltimore, at "Soldier's Delight," in magnesian rocks, and sometimes contains a dendritic substance.

Chromate of Iron, near Reistertown, at "Soldier's Delight," in *Serpentine*, or loose upon the surface. (C.)

SOUTH MOUNTAIN.

Common Argillaceous Oxide of Iron, on the W. side, and at the foot of the South Mountain, extending from the Potomac into Pennsylvania. It is usually imbedded in a ferruginous clay. (C.)

Yellow Ferruginous Quartz, beautifully crystallized. (Sil. 5.256.)

ST. MARY'S CO.

Selenite, fine crystals occur in alluvial soil, on the Patuxent. (C.)

TANEYTOWN.

Antimonial Sulphuret of Lead has been found near. (C.)

WASHINGTON CO.

Granular Limestone, at Boonsborough, associated with transition rocks, from which is wrought a very white *Marble*, having a finer grain than that of the Italian statuary marble.

Stalagmite, Alabaster, in Hughe's Cave.

Sulphate of Barytes, on the W. side of the Blue Ridge, with *Fluate of Lime*.

Prase, on the W. side of the Blue Ridge, in masses scattered on the surface.

Ferruginous Quartz, W. side of Blue Ridge, in small, yellowish, well defined crystals.

Hornstone, W. side of Blue Ridge, in large masses, constantly containing carbonate of copper.

Aluminous Slate.

Native Copper.

Compact Malachite. (C.)

DISTRICT OF COLUMBIA.

Flint, on the shore of the eastern branch of the Potomac, near the navy yard, in small nodules.

Hornstone, containing organic remains.

Agatized Wood, Woodstone, 3 m. N. from Washington, sometimes invested with minute crystals of quartz, fine specimens, and abundant.

Schorl, in Georgetown, in gneiss.

Lignite, and

Pyritical Fossil Wood, are found abundantly in digging wells.

Iron Ore, in the vicinity of the woodstone locality, in detached masses on the surface. Organic remains in sandstone,—abundant. (*Eddy*.)

VIRGINIA.

Hornstone, in the northwestern part of the state, in globular masses, and sometimes forming distinct beds.

Micaceous Oxide of Iron.

Sulphuret of Molybdena. (C.)

ABINGDON.

Gypsum, near. (C.) Sulphate of lime has been found abundantly on Holstein river, on the W. side of the Alleghany mountain. (Sil. 3.245.)

ALBEMARLE CO.

Jasper.

Oxide of Manganese. (C.)

AMELIA CO.

Graphite abounds in Winterham in this Co. (Morse.)

AMHERST CO.

Blue Quartz, near the Blue Ridge, in amorphous masses.

Red Oxide of Titanium, disseminated in loose masses of quartz on the soil, crystals sometimes nearly 4 inches long, and often geniculated. (C.) These crystals are found throughout this Co., Campbell, and Bedford, about 20 miles above Richmond; many of the specimens are elegant; sometimes as large as one's finger. (Sil. 2.143.)

Copper Ores. A copper mine was opened in this Co. on the W. side of James river, but is not now wrought. (Morse.)

AUGUSTA CO.

Limpid Quartz. Beautiful crystals are found in this Co. (Sil. 1.225.)

AUSTIN'S LEAD MINE.

Sulphate of Barytes, on the Great Kenhawa. (C.)

VIRGINIA.

BEDFORD CO.

Red Oxide of Titanium, disseminated in loose masses of quartz, on the soil, over the Co. as in Amherst. (C.)

Copper Ore A copper mine was opened on the E. side of James river, but is not now wrought. (*Morse.*)

BUCKINGHAM CO.

Gold is found, pure, and mixed, on the surface of the ground. (*Morse.*)

CAMPBELL CO.

Blue Quartz, near the Blue Ridge, in amorphous masses.

Staurotide.

Graphite.

Red Oxide of Titanium, disseminated in loose masses of quartz, scattered over the county, as in Amherst, fine specimens. (C.)

CHARLOTTE CO.

Amethyst, near the Roanoke; it is abundant in alluvial soil, in large crystals, sometimes forming groups, and varying in color from deep violet to nearly white. (C.)

CHESTERFIELD CO.

Coal. See Richmond, which is in Henrico Co.

FINCASTLE.

Sulphate of Barytes.

Gypsum, on the head waters of Staunton river, 25 m. from Fincastle. (C.)

GREAT KENHAWA.

Muriate of Soda, 50 m. S. from the Ohio. On the Great Kenhawa, are extensive salt works, from salt springs.

Carburetted Hydrogen Gas. On the banks of the Great Kenhawa, near the mouth of the Elk, is a large mass of soft, black earth, into which a pole may be thrust 10 or 15 feet; and from these apertures often proceeds a stream of carburetted hydrogen gas, which will continue to burn for some time. (C.)

GREENBRIER CO.

Sulphate of Magnesia, in a cavern.

Agate. (C.)

Muriate of Soda. Salt springs have been found in this county. (*Morse.*)

HARPER'S FERRY.

Chlorite.

Slaty Chlorite, abundant. (C.)

HENRY CO.

Mica, of superb lustre, and beautiful shades of color. (*Sil.* 5.257.)

Prismatic Mica, near the southern limit. (*Prof. Olmstead.*)

HOLSTEIN RIVER. See ABINGDON.

JEFFERSON CO.

Sulphate of Lime, at the foot of the Blue Ridge, and near Shenandoah river, 25 m. N. E. from Winchester. (*Sil.* 3.245.)

KENHAWA.

Petroleum, on the Kenhawa. (C.)

Sulphate of Lime, in considerable quantity on this river. (*Sil.* 3.245.)

Sulphuret of Lead. There are valuable lead mines on the Kenhawa, opposite the mouth of Cripple creek, and 25 m. from the North Carolina boundary. The ore is very abundant. (*Morse.*)

LAURELL HILL.

Buttstone; it is quarried here to furnish millstones. (C.)

LEESBURG.

Sulphuretted Oxide of Antimony, near, in detached masses in the soil; it has a deep ruby-red color. (C.)

LEXINGTON.

Sulphuret of Lead, near, in small plates, almost fine grained. (*Sil.* 5.255.)

MADISON'S CAVE.

Stalactites, and *Stalagmites*.

Reddle, near. (C.)

MONROE CO.

Sulphate of Magnesia, on the walls and floors of caverns. (C.)

MONTGOMERY CO.

Carbonate of Lime, in a vein or extensive bed near Col. Hancock's, resembling exactly, in all its characters, the calcareous concretions which are found forming in the caves of the country. It appears to have been a calcareous deposition, in a chasm, in the common limestone of the country.

Siliceous Carbonate of Lime, near Col. Hancock's, in a bed. (Sil. 1.63.)

NORTH MOUNTAIN.

Limpid Quartz, near. (C.)

Fluate of Lime, at the foot of the North mountain on the E. side, 25 m. S. W. from Winchester, on a small ridge of yellow clayey soil, in a wide vein of

Crystallized Carbonate of Lime, in the common limestone of the country; abundant. (Sil. 3.244.)

Manganese, abundant, 10 or 12 m. E. of the fluor, but not in the same mountain. The fluuate of lime above mentioned, occurs in a vein 12 or 15 inches wide, in a soft, calcareous rock which rests on a stratum of *Hornstone*. The depth and length of this vein is not ascertained. The fluor is promiscuously united with crystallized calcareous spar, and is frequently connected with the hornstone. Its colors are white, greenish white, red, violet, and dark blue, approaching, when in large masses, near to black. Many well defined crystals have been obtained. (Sil. 4.277.)

Calcareous Spar. A few miles E. of the fluuate of lime is an extensive stratum of crystallized carbonate of lime, much of which is remarkably transparent; it possesses the property of double refraction, and equals in beauty the Iceland spar. It is found also in detached, water worn, spherical masses, resembling the Scotch pebble; the outer coat beautifully tinged with the oxide of iron.

Ammonite, cornu ammonis, is found abundantly in the valley in the neighborhood of Winchester.

Iron Ore, crystallized distinctly, probably octahedral, as the projecting half, (the only part visible,) is a 4 sided pyramid, exists abundantly in the neighborhood of Winchester. (Sil. 4.278.)

ORANGE CO.

Native Copper, on Lord Fairfax's property. (C.)

PRESTON'S SALT WORKS.

Sulphate of Lime, near, in fibrous masses. (C.)

RANDOLPH CO.

Red Oxide of Titanium, in acicular crystals in quartz. (C.)

RAPPAHANNOCK.

Gold; a single lump of gold ore was found near the Falls, yielding 17 dwts. (*Morse*.)

RICHMOND.

Sulphur, at the coal mines, about 14 m. from Richmond, in Chesterfield Co.; it rises in fumes through fissures in the earth, and is deposited in acicular crystals, at the orifices, from which it issues.

Coal, in beds or strata, on granite, and covered by

Clay Slate, which often exhibits vegetable impressions.

Charcoal, pure, in the form of sticks or logs, is frequently associated with the coal.

Sulphuret of Antimony, near.

Red Oxide of Titanium, near, sometimes massive and granular, and sometimes compact, of a blood red color, and imbedded in milk white quartz, associated with the

Ferruginous Oxide of Titanium, which is sometimes compact, and sometimes granular. (C.)

Limpid Quartz, in beautiful pebbles covering the side of the hill at the coal pits.

Fuller's Earth, at the coal mines.

Sulphate of Alumine, efflorescing on the rubbish at the coal mines. Also

Sulphuret of Iron, very abundant in the slate, W. S. W. from Richmond, and 3 m. S. of James river. (*Sil.* 1.125.)

ROCKBRIDGE CO.

Limestone, constituting the "Natural bridge," over Cedar creek, a branch of the James.

Limpid Quartz, perfect and beautiful crystals. (*Sil.* 1.225.)

ROCKFISH.

Marble, on the N. side of James river, at the mouth of the

Rockfish; of good quality, sometimes white, but generally variegated with red, blue, and purple. (*Morse.*)

ROCKFISH GAP.

Epidote, in the Blue Ridge, so disseminated in greenstone, as to render it porphyritic. (C.) It is frequently associated with quartz, and sometimes imbedded in it. (*Sil.* 1.116.)

SALTVILLE.

Gypsum, near, 20 m. N. from Abingdon; it is quarried, and employed as a manure in the neighboring parts of Virginia and Tennessee. (C.)

SHANNONDALE SULPHUR SPRINGS.

Selenite, (C.) in large 6 sided prisms, in the bottom of the springs near the Shenandoah river, near considerable masses of *Limestone*; the crystals occur in groups which appear to shoot from a matrix of

Clay,
Marl, and calcareous earth. (*Sil.* 4.52.)

SHENANDOAH CO.

Fluate of Lime, near Woodstock or Millerstown, in small, loose masses, in the fissures of a limestone, containing shells.

Ferruginous Arseniate of Copper, incrusting the oxide of manganese.

Brown Oxide of Iron, on the Shenandoah.

Oxide of Manganese, sometimes crystallized, but usually compact. (C.)

SHEPHERDSTOWN.

Fluate of Lime, on the Potomac, in veins of white limestone traversing blue limestone, colors red and purple. (C.)

STAFFORD CO.

Petrified Wood, 4 m. N. of the court house, on the road from Washington to Fredericksburgh, and 16 m. from the latter, apparently the trunk of a tree, about 8 inches in diameter, firmly fixed in the ground, by the side of the road, color white. (*Sil.* 1.216.) *Woodstone*, almost black, has been found in this county. (*Sil.* 5.256.)

VIRGINIA.

209

STAUNTON.

White Marble, very fine resembling the Italian, is said to occur in considerable quantity 15 m. from Staunton. (*Sil.* 1.220.)

UNION.

Chromate of Iron, near Union in Loudon Co. (*C.*)

WELLSBURG.

Coal. (*C.*)

WHEELING.

Coal. (*C.*) A very productive bed of coal exists in the northern extremity of the town; its thickness is about 6 feet, and it occurs beneath the

Limestone. (*Nuttall.*)

WIER'S CAVE.

Stalactites, and

Stalagmites, of great size and beauty; some of the stalactites are delicately white. This cave is in Rockingham Co., it is $1\frac{1}{4}$ m. in extent, from 3 to 40 feet high, from 2 to 30 feet wide, and divided into various apartments.

Arragonite. (*C.*)

Blue Limestone. (*Sil.* 1.65.)

WINCHESTER. See NORTH MOUNTAIN.

WOODSTOCK. See SHENANDOAH.

WYTHE CO.

Sulphuret of Lead, near New river, in veins traversing limestone, and sometimes in a gangue of

Sulphate of Barytes.

Carbonate of Lead, 14 m. from the court house, on the banks of New river; it is sometimes massive and coherent, and sometimes disseminated and friable, and is usually yellowish, reddish, or blackish, sometimes in groups of white, acicular crystals,—with galena and other lead ores, but this predominates 5 to 1, over all the others. (*C.*)

Earthy Oxide of Lead. (*Olmsted.*)

NORTH CAROLINA.

Garnets have been found in the interior, as large as a child's head.

Magnetic Oxide of Iron, abundant, in the western part of the state. See Lincoln Co.

Red Oxide of Titanium, in the interior of the state. (C.)

Fibrous Gypsum, western part of the state. (Sil. 5.264.)

Common Quartz, scattered with singular profusion, over many parts of this state. The naked ridges, both of the lower and upper country, are mostly covered with it in fragments, from the size of a man's head to that of a small grain. It frequently surmounts the slate ridges that lie adjacent to the Blue Ridge, where it appears in huge rocks, perfectly white and pure; and it is associated, in regular strata, with mica slate, making up no inconsiderable part of the Sauratown, and Pilot mountains.

Clay Slate. A great slate formation crosses this state from N. E. to S. W: passing through the counties of Person, Orange, Chatham, Randolph, the western part of Moore, and Anson, the eastern part of Davidson, Rowan, and Cabarrus, and covering the whole of the county of Montgomery. The varieties of clay slate, and *Chlorite Slates* are numerous, embracing *Roofing Slate*, *Aluminous Slate*, blue and purple, and many lighter kinds of argillite,—all in perpendicular strata. Within this formation are also included large beds of *Soapstone*, *Talc*, and

Novaculite, beds of different qualities are very numerous throughout the slate formation. Porphyry, near the novaculite, in parallel beds: when first taken from the ground, susceptible of a high polish, and is beautiful, exhibiting a ground of black, purple, or green, speckled with white, shining crystals. It occurs in great abundance, in blocks above, or in continuous beds below the ground.

Sulphuret of Copper, *Pyritous Copper*, and *Green Carbonate of Copper*, and *Iron Ores*.

Specular Oxide of Iron, in plates, with intersecting striæ on their surfaces, is found in loose pieces on the ground, or ad-

hering to the *Quartz* which is found every where betraying a strong tendency towards crystallization, or in actual crystals, is scattered over the surface of this region.

Native Gold. In the southern part of North Carolina, over the foregoing slate formation, lies the deposit of native gold. It is not, however, confined to the slate, but extends beyond it on the west, where it covers granite and gneiss. It is found in Anson, Cabarrus, and Montgomery Co., chiefly in the small tributaries of the Yadkin and Rocky rivers, and in the bed of the latter; in a horizontal deposit of gravel and clay, in pieces of various sizes from small grains to a mass weighing 28 lbs. Deposits for the most part covers argillite; but also extends beyond that formation:—depth below the surface, from a few inches to 6 or 7 feet, according as the ground is elevated or low. The foregoing deposit covers an area of at least 1,000 square miles.

Pipe Clay, very common in the low country, in the “Plastic Clay” formation.

Hepatic Sulphuret of Iron, in cubes, scattered abundantly over the slate country.

Sulphuret of Lead, found in small masses, in several parts of the state, but no large bed or vein yet discovered.

Manganese, very abundant in several parts of North Carolina. (O.)

ANSON CO.

Clay Slate. See Clay Slate under North Carolina.

Native Gold, on Richardson’s Creek, a branch of Rocky river. 50 m. from Salisbury. See Native Gold under North Carolina. (O.)

Magnetic Oxide of Iron, abundant. (Sil. 3.3.)

BUNCOMBE CO.

Sulphate of Barytes, in Clay Slate.

Zircon. (C.) The sulphate of barytes is found about 6 m. above the springs.

Stalactites are found in a cavern of Limestone, which may be penetrated with convenience for 30 yards, near the Ferry below the springs.

Yellow Ochre, in a cave near the above, in large quantity, and of good quality. *Cobalt*, *Copper*, and *Iron*, are said to exist in the neighboring mountains. (Sil. 3.117.)

Zirconite is found in considerable quantity, in loose soil, on a small mountain, which appears to be a dependent upon the mountains known by the name of Saluda. It is on the road leading from the Saluda Gap to Ashville, and is the first elevation to the left, after passing Green river. Gneiss and sienite are the principal rocks of this mountain. Among the rocks are also found

Garnets, in rhomboidal dodecahedrons.

Sulphuret of Iron,

Hepatic Sulphuret of Iron, and

Micaceous Oxide of Iron. (*J. A. N. S. P.* 3.59.)

► BURKE CO.

Carbonate of Lime, granular, dove colored, and fine grained, suitable for marble, said to be abundant. (*O.*)

CABARRUS CO.

Sulphate of Barytes, granular, in nodules and veins, in a bed of black manganese, N. E. corner of this Co. 15 m. from Salisbury.

Fetid Quartz, color black, at the gold mines.

Native Gold, Reed's mine, on Meadow creek, a small branch of Rocky river, 30 m. from Salisbury. This was the first that was opened. See *Native Gold*, under North Carolina

Pyritous Copper, elegant specimens at Reed's gold mine.

Talc, in a bed accompanied by black manganese, very unctious,—splits into thin laminæ, presenting surfaces which are beautifully variegated with arborizations, hence called by the inhabitants, "the Calico Rocks." N. E. corner of the Co., 15 m. from Salisbury.

Scaly Talc, of a silvery white, is found at the same place.

Black Oxide of Manganese, mammillary, and compact, a bed in talc, N. E. corner of the Co. 15 m. from Salisbury, commences 8 feet below the surface,—has been explored 30 feet in depth, extent unknown,—soil over the bed impregnated with manganese, and of a liver color.

Ferruginous Oxide of Manganese accompanies the gold deposit, lying above it. (*O.*)

CHATHAM CO.

Quartz, almost every variety. (*Sil.* 5.261.)

Petrosilex, and porphyry, and

Clay Slate, and

Novaculite. See *Clay Slate* under North Carolina.

Bituminous Shale, black, greasy, with

Coal, in a bed, in a great sandstone formation, on Deep river, 40 m. S. W. from Chapel hill, at the southern extremity of this Co.—quality good, and believed to be abundant.

Brown Hematite, near Teak creek, abundant. (O.)

DAVIDSON CO.

Clay Slate. See North Carolina.

Soapstone abounds in this Co. and several other parts of the state. (O.)

FAYETTEVILLE.

Petrified Wood occurs in very numerous fragments, usually scattered over sandy plains. (Sil. 5.261.)

Potter's Clay. Infusible clays occur here, and in various parts of the low country. (O.)

FORT BARNWELL. See WAYNE CO.

GERMANTON.

Carbonate of Lime, foliated, pale blue, an extensive bed crossing the state; quarries are opened at Snow creek, 20 m. N.

Potter's Clay, infusible clays at this place, and in various parts of the low country. See Lincoln Co.

Coal, in veins in a small tract of secondary, on Dan river, and thence to Germanton, Stokes Co.

Lignite, in a "Plastic Clay Formation," near, in parallel logs, obeying the direction and inclination of the strata of the country, flattened and ellipsoidal; sometimes scattered over the ground in fragments. Bituminous and combustible. (O.)

GRANVILLE CO.

Limptd Quartz, fine crystals are found in this Co. A regular prismatic crystal from Oxford, exhibited within, a concentric crystal of smaller dimensions, but having the prism and pyramid of precisely the same figure.

Talc, a very fine bed, approaching the characters of French chalk, of a delicate white, or light flesh color, 20 m. from Oxford, on the road to Person court house. (O.)

GREENE CO.

Sulphate of Iron, very abundant, from decomposing pyrites.
(O.)

HALIFAX.

Pipe Clay, near. It is very common in the low country, in the "Plastic Clay Formation." (O.)

HILLSBOROUGH.

Sulphate of Barytes, lamellar, in a vein of quartz traversing clay slate. The quartz adheres to the sides of the barytes, and shoots long crystals into the mass. This mineral divides into tabular fragments, slightly rhomboidal, a figure which it obstinately preserves; it is eminently pure, and beautiful, of a light sky blue, or of a pearly white color, and a glistening lustre. (O.) (*Sil.* 5.227.)

Talc, accompanying *Argillite* in their curved laminæ, with projecting knobs, of a fine flesh color, and considerable lustre. (O.)

Alum Slate, some of the argillites near, appear to be of this kind. (O. in *Sil.* 5.263.) See Orange Co.

JOHNSON CO.

Sulphate of Iron, from decomposing
Pyrites, extremely abundant, on the banks of the Neus for 100 m. particularly in this Co., Wayne, Lenoir, and Greene (O.)

LENOIR CO.

Sulphate of Iron, from decomposing pyrites, extremely abundant on the banks of the Neus. (O.)

LINCOLN CO.

Compact Oxide of Titanium. (*Sil.* 3.3.)

Carbonate of Lime, foliated, pale blue, and bluish white color, forms an extensive bed crossing the state. Quarries are opened in Stokes, Surry, and at King's mountain, in this Co. The limestone bed reposes on mica slate. It has been observed only at the lowest levels, as on the banks of creeks and rivers.

Calcareous Spar, in semitransparent rhombs, in the limestone.
Chalcedony, and
Cacholong, incrusting

Hornstone,
Carnelian,
Jasper, red and yellow, and
Agate, are found in the vicinity of the limestone, throughout its whole extent.

Lazulite, not far from Lincolnton.

Feldspar, Green and pure white, in limestone.

Fibrous Actynolite, in the limestone.

Magnetic Oxide of Iron, in numerous inexhaustable beds in the counties east of the Blue Ridge, particularly Surry, Stokes, and this Co., extensively manufactured. Numerous beds of this ore are found in the vicinity of the limestone through its whole extent.

Black Oxide of Manganese is said to be abundant in this Co. (O.)

MONTGOMERY CO.

Petrosilex, composing a magnificent structure at the falls of the Yadkin. (Sil. 5.263.)

Clay Slate, covering the whole of this Co. See Clay Slate under North Carolina.

Native Gold. Parker's mine, on a small tributary of the Yadkin, 25 m. from Salisbury, and 5 or 6 m. from the Narrows of the Yadkin. See Native Gold under North Carolina. (O.)

NASH CO.

Pipe Clay, near the court house. It is very common in the low country in the plastic clay formation.

Argillaceous Oxide of Iron, in this Co. and several other places in the low country. (O.)

ORANGE CO.

Limpid Quartz, fine crystals are found in this Co.

Milky Quartz, in fragments over argillite.

Tabular Quartz; the tables an inch square, or larger, meeting at different angles, so as to form cells, and incrustated throughout with minute crystals of quartz.

Granular Quartz, numerous beds, usually over slate, pure white, sometimes friable; used for course, sharp whetstones. (O.)

Hornstone, passing into

Flint, in nodules, often 4 inches in diameter, near Chapel Hill. (*Sil.* 5.264.)

Petrosilex. Petrosiliceous porphyry, forming a parallel ridge near the novaculite, 6 m. W. from Chapel Hill, colors black, purple, and green, susceptible of a fine polish; very abundant.

Soapstone, in the eastern part of this county, 20 m. E. of Hillsborough, extremely elegant; it is sufficiently hard and compact to take a good polish, and has a soft, white ground variegated with tints of red. (*O.*)

Chlorite Slate, and greenstone slate. (*Sil.* 5.263.)

Clay Slate. See North Carolina.

Novaculite occurs in numerous beds, of different qualities, throughout the slate formation. The finest specimen is found 7 m. W. of Chapel Hill. It is of an olive green color, semi-hard, translucent, and small conchoidal, resembling in external appearance, some varieties of hornstone. The surface, when polished, is frequently clouded, striped, or chequered, so as to be quite ornamental. In short it answers to the description of the genuine Turkey oil stone, and is preferred by the carpenters to any bones in the market. Another oil stone, a little inferior to the above, is found 2 m. from Chapel Hill; it is more slaty than the former, splits into rhomboidal tables, while the fragments of the other are generally amorphous; is more splintery, and of a light yellow color, instead of green. In many specimens it exhibits, moreover, the finest dendritic delineations.

Water Hones are more common; a very fine bed crosses the Salisbury road, 21 m. W. of Chapel Hill. The beds of Novaculite are in general less slaty, and have their upper ridges more rounded than the argillite, and chlorite in the vicinity.

Pipe Clay, in several places.

Sulphuret of Iron, in cubes, exceedingly common in this region. On the Haw river they occur in such abundance, that an individual, it is said, supposing them to be valuable, collected several bushels of them. (*O. Sil.* 5.262.)

Specular Oxide of Iron, &c. in quartz, from Hillsborough southward into Chatham, more than 20 m. (*Sil.* 5.261.)

Ferruginous Oxide of Manganese accompanies the novaculite, where it appears near the surface, in thin layers, or in nodular pieces exhibiting mammillary, distinct concretions. (*O.*)

PERSON CO.

Soapstone, in large beds, among *Argillite*, very compact in structure, affording excellent blocks for architectural purposes. (O.)

RALEIGH. See WAKE CO.

RANDOLPH CO.

Talc, fibrous, resembling asbestos, in the southern part of the Co.

Soapstone, in large beds, among *Argillite*, very compact in structure, affording excellent blocks for architectural purposes.

Native Iron, a small mass of about 2 lbs. was found in the vicinity of a bed of

Argillaceous Iron Ore.

Sulphate of Iron, from decomposing pyrites. (O.)

ROCKINGHAM CO.

Talc, with radiated crystals. (Sil. 5 259.)

Red Oxide of Iron, near the river Maho. (O.)

ROWAN CO.

Columnar Basalt. Basaltic dykes. (See Sil. 5.1.)

Soapstone abounds in this Co. and several other parts of the state.

Porcelain Clay, on the sides of Flat swamp mountain, 14 m. from Salisbury, soft and unctuous; abundant. (O.)

SALISBURY.

Black Oxide of Manganese, in a bed, crossing the road, 1 m. N. of Salisbury, accompanying granite, of apparently good quality. (O.)

STOKES CO.

Carbonate of Lime, foliated, folia small, and irregular, color, pale blue, and bluish white, forms an extensive bed crossing the state. Quarries are opened at Snow creek, 20 m. N. of Germanton; also 12 m. W. of Salem.

Calcareous Spar, semitransparent rhombs, in limestone.

Chalcedony,

Jasper, red, and yellow,

- Agate*,
Carnelian, and
Cacholong, incrusting
Hornstone, are found scattered on the surface of the ground
in the vicinity of the limestone. (O.)
Tourmaline, crystallized in mass. (Sil. 5.263.)
Feldspar, green and pure white, in the limestone beds.
Petuntze, near the limestone, abundant.
Fibrous Actynolite, in the limestone; fine specimens of acicular actynolite are found on Snow creek, in limestone. (O.)
Foliated Talc. (Sil. 5.264.)
Steatite. (Sil. 5.259.)
Magnesian Clay, 11 m. S. E. of the Pilot mountain, porous and meagre, but extremely white, imbedded in
Red Clay, near a bed of
Iron Ore.
Graphite, in a bed of considerable extent, a little E. of the Pilot mountain, quality a little inferior to that of Wake Co. (O.)
Magnetic Pyrites, disseminated in limestone. (Sil. 5.262.)
Magnetic Oxide of Iron, in numerous and inexhaustible beds, in the counties E. of the Blue Ridge, particularly in this Co., Surry, and Lincoln; extensively manufactured.
Specular Oxide of Iron, usually adhering to quartz, scattered over the slate ridges; also in the quartz rocks of the Pilot, and Saura Town mountains. (O.)

SURRY CO.

- Carbonate of Lime*, color, pale blue, and bluish white; quarries are opened 5 m. below the court house, on the Yadkin. See Lincoln.
Schorl, in small crystals, forming masses of various sizes, some weighing several hundred pounds. It contains a large proportion of the oxide of iron, at the foot of the Blue Ridge.
Magnetic Oxide of Iron, in numerous and inexhaustible beds. East of the Blue Ridge, particularly in Surry, Stokes, and Lincoln; extensively manufactured.
Sulphate of Iron, on Mitchell's river, 10 m. E. of the Blue Ridge, in a lofty precipice of decomposing slate.
Brown Oxide of Manganese, containing a mixture of mica, found in gneiss, in the northern part of the Co. (O.)

WAKE CO.

- Limpid Quartz*, fine crystals are found in this Co. (O.)
- Flint*, (hornstone,) associated with compact, earthy limestone.
- Tremolite*, in veins in the Plumbago formation. (Sil. 5.260 & 5.264.)
- Hornblende*, crystallized, in chlorite, same place, and among the serpentine, several handsome crystallized varieties of black and green.
- Actynolite*, both common and acicular ; also connected with the *Serpentine*, 12 m. N. of Raleigh, of a superior quality, being compact, and fine grained, richly colored with different shades of green, and highly porphyritic ; it takes a fine polish. It occurs in large blocks, both above and below the surface.
- Green Talc*,
Indurated Talc, and
Scaly Talc, with serpentine.
- Steatite*, green colored and beautiful, accompanied by green scales of talc, in the preceding serpentine formation. (O.)
- Chlorite*, interspersed with crystals of hornblende ; abundant. (Sil. 5.260.)
- Graphite*, in parallel beds, in breadth from a few inches to 12 feet, in mica slate ;—width of the formation, so far as observed, $1\frac{1}{2}$ m.,—direction near N. and S.—nearest bed, 2 m. W. of Raleigh. The plumbago is sometimes mixed with the micaceous rock, but frequently obtained pure in large slabs, sometimes traversed by small veins of scaly talc. (O.)
- Sulphuret of Iron*, in crystals, and in small veins in micaceous, or talcose slate. (Sil. 5.259.)
- Magnetic Iron Sand*, on the surface of the ground in great abundance about the serpentine. (O.)

WAYNE CO.

- Marly Limestone* is found in numerous parts of the low country. Thirty m. from the coast, it forms an extensive bed, where it appears of a light grey color, and close texture, containing a few shells. It is burnt for lime at Wilmington, but the lime is said to be of an inferior quality. More remote from the coast, at Fort Barnwell, and Waynesborough, a coarse shell marl is found, of a porous texture, and full of organic remains. (O.)

Petrified Wood, on the banks of the Neuse. In many parts of its course, the banks of the Neus are strewn with pieces. (Sil. 5.261.)

Sulphuret of Iron, imbedded in an earth that is full of copperas, on the banks of the Neus, near Waynesborough. It effloresces on its surface, and is manufactured by the inhabitants for use. This pyrites also decomposes on the surface of the ground, and forms copperas. (Sil. 5.262.)

Argillaceous Oxide of Iron.

Sulphate of Iron, from decomposing pyrites, on the banks of the Neus, extremely abundant, for 100 m., particularly in the counties of Wayne, Johnston, Lenoir, and Greene. (O.)

WILMINGTON. See WAYNE CO.

SOUTH CAROLINA.

Native Gold is said to have been found on the Catawba
Sulphuret of Molybdena. (C.)

BROAD RIVER.

Marble, fine grained, greyish white, abundant on the waters of Broad river. (Sil. 4.53.)

CHESTER DISTRICT.

Iron Ore, on the Catawba, at Handsford, a quarry is opened on the estate of Gen. Davie. (Sil. 3.3.)

COLUMBIA.

Geodes of sandstone, filled with ochres of various colors, are frequently met with in this vicinity. (Sil. 3.2.)

Augite, two parallel black veins occur in a mass of granite, near the S. E. boundary of Columbia, by the side of Rocky Branch, which empties into the Congaree, just below Dr. Fisher's mill dam. These veins lie near to each other, of from 1 to 2 inches in thickness, nearly vertical, and of an

unknown length and depth, and appear to be almost entirely composed of pyroxene.

Hemitrope, or *Macle*, exists in these veins. (*J. A. N. S. P.* 3.146.)

EUTAW SPRINGS.

Shell Limestone, *Calcaire Ostrée*, a stratum of shells, in some situations united by a scanty calcareous cement, composed chiefly of a large species of *ostrea*, commences at these springs, near Santee river, passes to Orangeburgh, and crosses the Savannah river 15 m. below Augusta, occasionally disappearing under the sand. It then may be traced to Burke Co., Georgia, crosses the Ogeechee, near Louisville; then near Sandersville, passing through Wilkinson Co.; it is then found in St. Marks, in Florida, where the tower and fort are built of it. The basis of the land, forming the N. E. boundary of the Sea of Mexico, is composed of it; from thence to Alachua plains, crossing the Apalachicola, and proceeding in a N. W. direction across the head of the Choctaw creek; it meets the Alabama river near Cahawba, where this formation expands and forms a basin 100 m. square, composing the counties of Montgomery, Dallas, Wilcocks, Greene, Marengo, and part of Washington, in Alabama. It then passes N. W. by Demopolis, to the Chickasaw country, where it terminates near the Bluffs, extending 600 m. in length, from 10 to 100 m. in width, and probably 300 feet in thickness. In some parts it presents immense banks of loose shells, 10 or 15 m. in length, without the mixture of any foreign substance. In some situations it contains large quantities of

Sulphuret of Iron, *Iron Pyrites*. (*Sil.* 7.39 to 41.)

GREENVILLE DISTRICT.

Limpid Quartz, crystals are found in this district. (*C.*)

Antimony, and

Carburet of Iron, have been observed here. (*Sil.* 3.3.)

LAURENS DISTRICT.

Corundum, a 6 sided prism was found, near a rivulet, 1 or 2 m. from the court house. (*C.*)

GEORGIA.

NEWBURY DISTRICT.

Limpid Quartz, in alluvial soil, perfect crystals. (C.)
Sulphuret of Iron, fine specimens are found; also
Mica, in wide plates, and
Pitchstone, are frequently met with. (Sil. 3.3.)

PENDLETON DISTRICT.

Limpid Quartz, in the northern parts of the district.
Native Magnet.
Red Oxide of Titanium. (C.)
Antimony, and
Carburet of Iron, have been observed here. (Sil. 3.3.)

SPARTANBURG DISTRICT.

Limestone, and colored
Marble. A quarry is opened on Col. Nesbit's land.
Limpid Quartz, in amorphous pieces, on John Crawford's
plantation, and elsewhere.

UNION DISTRICT.

Red Oxide of Titanium.
Ferruginous Oxide of Titanium. (C.)

YORK DISTRICT.

Iron Ore. Extensive iron works are richly supplied on the spot
with this ore. (Sil. 3.3.)

GEORGIA.

Agate, in a matrix of
Limestone, approaching chalk.

AUGUSTA.

Kaolin, about 30 m. N. W. from Augusta, resembling the ka-
olin of Limoges, except that its siliceous particles are much
finer, and scarcely visible; its colors white and red. (C.)

BRIAR'S CREEK.

Siliceous Sinter is said to exist in

Buhrstone, which is found in the northeastern part of the state, on Briar's creek, sometimes irregularly mixed with shell limestone. (C.)

Hyalite, in the buhrstone, in mammillary concretions. (Hall.)

Agate, 2 or 3 m. from the road leading from Savannah to Augusta, forming a solid mass across Briar's creek, which passes through Milhaven, and empties into the Savannah, on which is built a mill dam. Below the dam, in cutting the race way, numerous hollow balls were found, filled with a milky fluid. (Sil. 8.285.)

BURKE CO.

Buhrstone, a range of petrified marine shells, from which mill-stones are obtained, commences at Shell Bluff, and extends southwesterly through the state. (C.)

OCONEE RIVER.

Yellow Ochre, very beautiful, on the waters of the Oconee. (Sil. 4.53.)

RACCOON MOUNTAIN.

Nitrate of Potash, at Nicojack, $\frac{1}{2}$ a m. from the S. bank of Tennessee river, in a cavern, the entrance to which is 50 feet high, and 160 feet wide. One bushel of earth from this cavern, containing the nitrate, both of potash and lime, yields from 3 to 10 lbs. of crude nitre. (C.) This cave is situated in the Cherokee country. It forms a walled and vaulted passage for a river 6 feet deep, and 60 wide, 20 m. S. W. of the Look-Out mountain.

Limestone, in immense horizontal layers forming a precipice, in which the cave commences. (Sil. 1.320.)

SCRIVEN CO.

Buhrstone, considerable quantities, it is said, of this substance have been obtained for mill stones, 20 or 30 m. S. from Mill Haven. (C.)

SHELL BLUFF. See BURKE CO.

WASHINGTON CO.

Yellow Ochre, 12 m. from Milledgeville, forming a large hill, of fine quality. (Morse.)

FLORIDA.

APALACHICOLA.

Limestone, and
Iron Ore, are found on the banks of this river. (*Morse.*)

ESCAMBIA BAY.

Potter's Clay, 7 m. above Pensacola, in a plastic clay formation. Clay abounds in Florida. (*Sil.* 7.37.)

ST. MARKS.

Shell Limestone, composed entirely of shells, cemented together; the tower and fort at this place are built of this stone. (*Sil.* 7.41.) See Eutaw springs, S. C.

ALABAMA.

DALLAS CO.

Shell Limestone, composed entirely of shells. (*Sil.* 7.41)

GREENE CO.

Shell Limestone, composed of oyster shells cemented. (*Sil.* 7.41)

HUNTSVILLE.

Buhrstone. (*Sil.* 7.39.)

MARENGO CO.

Shell Limestone, composed of oyster shells cemented. (*Sil.* 7.41.)

MOBILE BAY.

Potters' Clay in a plastic clay formation. (*Sil.* 7.37.)

MISSISSIPPI.

226

MONTGOMERY CO.

Shell Limestone in abundance. (*Sil.* 7.41.)

WASHINGTON CO.

Shell Limestone in abundance. (*Sil.* 7.41.) See Eutaw Springs, South Carolina.

MISSISSIPPI.

Amethyst, one crystal was found in this state. (*Sil.* 1.325.)

CHICASAW BLUFFS.

Potter's Clay, in a "Plastic clay formation." (*Sil.* 7.37.)

ELLIS'S CLIFFS.

Sulphuret of Lead, in small quantities. (*Sil.* 1.325.)

GIBSON'S PORT.

Sulphuret of Lead, in small quantities (*Sil.* 1.325.)

NATCHEZ.

Petrified Wood. An excessive drought, in the summer and autumn of 1800, displayed to view a flat of more than 100 paces wide, along the bottom of the usual bank of the Mississippi river, near Natchez, at low water, which probably was never visible, at least for ages, to human eyes. On this flat were to be seen trunks of trees in a complete state of petrification, bearing no marks of timber, except the form, and different colors of white and red wood, both of which are much changed. Also on the same flat or bottom lie thousands of bodies, which have the appearance of stone, of all sizes, from the bulk of walnuts to that of large pots. Many of the large ones are broken; they have the appearance of fragments of pots, and seem to be rich

Iron Ore. A stroke of the hammer will break them to pieces like an earthen vessel. They incline to a globular

TENNESSEE.

form, with some flats on their surfaces, and within each is a nucleus of a white, marly substance, about the consistency, when dry, of chalk. The mass above the plain is of a substance between hard clay and stone, mixed with gravel and strongly impregnated with the

Sulphate of Iron. (J. Hall, D. D.)

Potter's Clay, in a Plastic Clay formation. (Sil. 7.37.)

LOUISIANA.

Meteoric Native Iron, a mass weighing upwards of 3000 lbs. at present in the museum of the Literary and Philosophical Society of New York, was found near the Red River, 400 m. above Natchitoches, or more. Other masses were left in the vicinity. (C.) (Sil. 3.45, & 8.218.)

Sulphuret of Antimony. (Bruce, 125.)

TENNESSEE.

Nitrate of Potash is found in calcareous caverns in this state.

Compact Limestone, eastern part of the state, imbedding

Hornstone, in globular masses.

Sulphate of Iron, manufactories of copperas are established in this state. (C.)

GUMBERLAND MOUNTAIN.

Coal is said to exist in immense quantities in this mountain. (Sil. 1.63.)

Nitrate of Potash. The numerous caves found in this mountain and other parts of Tennessee, have been very productive of the nitrate of potash. (Sil. 1.65.) See Warren Co.

ELK RIVER.

Compact Red Oxide of Iron, on this river, very hard and compact. (C.)

GRANGER CO.

Sulphuret of Lead, on land belonging to Gen. Cocke. (Sil. 1.63.)

KNOXVILLE.

Coal, near. (C.) A bed, of excellent quality, is wrought near. (Sil. 1.63.)

Grey Limestone occurs in immense quantities in this vicinity. Its appearance is that of some variegated marbles; white veins penetrate it, and wind through it in every direction. (Sil. 1.220.)

NASHVILLE.

Sulphuret of Lead, near; (C.) on the plantation of the Rev. Mr. Craighead, it exists very near the surface. (Sil. 1.63.)

Sulphate of Barytes with galena 6 m. N. in the channel of a little creek, commonly dry, also

Agatized, petrifications, siliceous and calcareous, many of them are found also upon the highest lands, on the plantation of Mr. Craighead. (Sil. 5.269.)

OVERTON CO.

Gypsum, near Cumberland River. (C.)

SEVIER CO.

Sulphate of Barytes. (C.)

SMITH CO.

Fluate of Lime, in white or purple cubes, which are sometimes truncated, or bevelled on the edges. (C.)—Some of the crystals are yellow and filled with brilliant

Pyrites, (Sil. 4.51.)

WARREN CO.

Sulphate of Iron, in considerable quantities, (C.) in its native pure state, together with

Native Plumose Alum, in a cave, in Cumberland Mountain.

These beds of pure native copperas, or pure native alum, are always either in natural caves, or under the brow of a bluff, where they are sheltered from heavy rains, or torrents of water. (Bruce, 265.) See Cumberland Mountain.

KENTUCKY.

Nitrate of Potash, is furnished in large quantities from calcareous caverns, which abound in this state. See Madison Co.

Native Nitre, constituting what is here called *rock ore*, which is a sandstone richly impregnated with nitre,—at the head of narrow vallies, which traverse the sides of steep hills,—resting on calcareous strata, sometimes presenting a front of 60 to 100 feet high—one bushel of this sandstone yields from 10 to 20lbs. of nitrate of potash. Large masses of nitre, nearly pure, are sometimes found in the fissures of this sandstone, and among detached fragments.

Calcareous Spar, in rhombic crystals, equal to the Iceland spar.

Nitrate of Lime, in calcareous caverns, with nitrate of potash.

Native Mercury, in small globules in a mass, which also appears to contain some native amalgam. (C.)

ALLEN CO. See SCOTTSVILLE.

BIG SANDY RIVER.

Oxide of Manganese, near ; (C.) near Greenupsburg, on Big Sandy River. (Sch.) See Sandy River.

CALDWELL CO.

Native Iron, malleable, near Eddyville. (T. A. Greene.)

CLARKE CO.

Compact Marble, handsome ; colors, yellow, smoke, and ash grey, considerably variegated by darker clouds. (Sil. 3.234.)

DRENNON'S LICK.

Sulphuret of Lead. (Sch.)

GOOSE CREEK.

Muriate of Soda ; a salt spring wrought on this creek, has been very productive. (Sil. 1.66.)

GREENSBURG.

Oxide of Manganese, near. (C.)

GREENUP CO.

Oxide of Manganese is said to exist in this county. (*Sil.* 2.374.)

HENDERSON CO.

Nitrate of Potash, in a cavern, which is said to be very extensive. (C.)

JESSAMINE CO.

Marble, compact, very handsome ; colors yellow, smoke, and ash grey, considerably variegated by darker clouds. (*Sil.* 3.234.)

LEXINGTON.

Sulphate of Barytes, near, in opaque, milk white stalactites, or cones, attached to a base of the same substance, in *Limestone*.

Carbonate of Barytes is said to have been discovered in large quantities, near. (C.)

LICKING RIVER.

Hydrogen Gas, issuing in a stream, about equal in volume and force to the blast of a common smith's bellows, without cessation, from the bottom of a spring which breaks out at the foot of a hill, forming a basin of water about 6 feet in diameter, and 2 feet deep, situated on one of the principal forks of Licking river, about $\frac{3}{4}$ of a m. from the banks of the river, and about 80 m. above its junction with the Ohio, opposite Cincinnati. This gas burns with great brilliancy ; it is probably carburetted hydrogen. (*Sch.*)

Native Nitrate of Potash. Masses of pure white, have been found on this river, in the crevices, or between fragments of sand rock, which is saturated with it. (*Bruce*, 108.)

LOUISVILLE.

Sulphate of Magnesia, beautifully crystallized, in a cave in Indiana, not very far from Louisville, so abundant as to be carried away by the wagon load. (*Sil.* 1.49.) See Corydon, Indiana.

Limestone. The ledge, composing the Falls of the Ohio is nearly as horizontal as a floor, and filled with the reliquæ

of terebratulites, caryophyllites, corallines, encrinites, &c.

It also contains an unusual portion of

Sulphuret of Iron, and illinitions of

Sulphuret of Zinc.

Petrified Wood, near the island which divides the cataract, in considerable quantity. (*Nuttall*, 36.)

MADISON CO.

Nitrate of Potash, in a cavern, on Crooked Creek, about 60 m.

S. E. from Lexington. This cavern extends entirely through a hill, and affords a convenient passage for horses and wagons. Its length is about 646 yards; breadth generally about 40 feet, and its average height about 10 feet. One bushel of the earth in this cavern yields from 1 to 2 lbs. of nitre. (C.)

Nitrate of Lime, in the earth with nitrate of potash, in the above great cave. Scott's Cave, 2 m. distant from the great cave is more productive in nitre. It is obtained also from Davis' Cave, 6 m. distant, and from 2 other caves within 1 m. of the great cave, and from a cave on Rough Creek, a branch of Green River. (*Bruce*, 101.)

MAYSVILLE.

Coal. (C.)

MILLERSBURG.

Sulphuret of Lead, in
Limestone. (C.)

SANDY RIVER.

Muriate of Soda, in salt springs which are found on Big, and Little Sandy Rivers. These springs afford a strong brine. (C.)

SCOTTSVILLE.

Petroleum, 5 m. from Scottsville, on a spring of water; it is sufficiently liquid to burn in a lamp, is collected in considerable quantities, and sells at 25 cents a gallon.

Sulphuret of Iron, in cubic and octahedral crystals, beautiful and well defined, so extremely minute as to resemble powdered fragments, or brass filings, without a lens. (C.)

WARREN CO.

Sulphate of Magnesia, on the S. bank of Green River, in the Mammoth cave. (C.)

WOODWARD CO.

Marble, compact, handsome, colors yellow, smoke, and ash grey; considerably variegated by darker clouds. (Sil. 3.234.)

OHIO.

Alum occurs in several counties, where it is employed for domestic purposes.

Carburetted Hydrogen gas often issues from fissures in shale, or secondary argillite. When the auger, in boring for salt wells, enters one of these fissures, water and earth are sometimes thrown up above the surface. These apertures sometimes continue to *blow*, as it is called, for several days, and in some cases the tubes in the well are compressed, or filled up.

Coal, in different parts of the state. In some cases, three successive beds of coal are found, separated from each other by

Clay Slate, or

Shale, bearing vegetable impressions. See Gallipolis and Zanesville.

Peat exists abundantly in this state.

Sulphuret of Mercury, in the soil in the form of a black sand, and red sand, but is usually more abundant in banks of fine ferruginous clay. See Erie Lake, and Michigan.

Sulphuret of Iron, Cellular Pyrites, occurs in globular masses, nearly brass yellow, varying from the size of a pea to several inches in diameter, and generally in clay.

Argillaceous Oxide of Iron, in several parts of the state. It sometimes passes into the

Compact Brown Oxide of Iron.

Native Bismuth is said to have been observed in small quantities in this state. (C.)

ATHENS CO.

Chalcedony. (C.)

Green Carbonate of Copper is said to occur in great abundance in the

Flint beds. (Sil. 3.245.)

AU GLAIZE RIVER.

Native Lead. In the bed of this river, near its mouth, a mass of crystallized galena was found, weighing 13 lbs., containing native lead in slips, or slender, prismatic masses. (C.) (Sil. 1.433, & 2.171.)

BELMONT CO.

Muriate of Soda, salines or licks are found in many places. *Alum*, exuding from the rocks in many places, sufficiently pure, and in quantities sufficient for several families who collect and use it in dying.

Limestone, hard, and of the best quality, is found in detached fragments in the sides of hills, and in strata, in abundance along the beds of streams.

Potter's Clay, in several places is found the best of clay for bricks.

Sulphur; several sulphur and chalybeate springs exist in this Co. and some of them throw out considerable quantities of *Petroleum*.

Coal. Fossil coal is every where found under the hills, of the very best quality, and in sufficient quantity for fuel for many future generations.

Iron Ore, variously combined, is recognized in many places.

Sulphate of Iron exudes in many places, sufficiently pure, and in quantity sufficient for several families who collect and use it in dying. (Sil. 1.227.)

BUSH CREEK.

Argillaceous Oxide of Iron, on this creek, from which the foundry at Cincinnati is supplied. (Sch.)

ELLSWORTH. See TRUMBULL CO.

ERIE LAKE.

Sulphuret of Mercury occurs abundantly on the shores of Detroit river, Lake St. Clair, Huron, and Michigan, in Michigan, and Lake Erie to the mouth of Vermillion river, in this state. It occurs in the soil in the form of a black and red sand, but is usually more abundant in the banks of fine ferruginous clay. Near the mouth of Vermillion river, it is in the form of a very fine, red powder, or in grains and small masses, disseminated in clay. It yields, by distillation, about 60 per cent. of Mercury.

Magnetic Iron Sand, on the shore of Lake Erie, near the river Ashtabula. (C.)

FORT MEIGS.

Sulphate of Barytes, on the Maumee, 3 m. below Fort Meigs, in irregularly crystallized masses, Berlin blue, or white, of different shades. (C.)

GALLIPOLIS.

Nitrate of Potash, 2 m. from Gallipolis, and in various other parts of the state. The nitre is obtained from earths, found in sheltered places, which are formed by the projecting of large masses of sandstone; sometimes also it occurs in masses of considerable size.

Coal, in different parts of the state; from this to the Falls of the Ohio, it costs about 10 cents a bushel.

Sulphuret of Lead, near, on the N. side of the Ohio river, between Indian Wheeling and Campaign Creek. (C.) A bed of coal is worked on the bank of the river, some distance above the base of a high cliff, and overlaid by a massive, micaceous sandstone, constituting the main body of the hill, and as usual, horizontally stratified; beneath the coal appeared a laminated

Limestone. (Nuttall, 24.)

HOCKHOCKING RIVER.

Muriate of Soda, in springs, on the banks of this river.

Calamine is said to occur in white plates or laminæ, between strata of

Compact Limestone, near the falls of the Hockhocking. (C.)

HOCKING CO.

Chalcedony.

Flint, in alluvial beds, and sometimes connected with

Limestone.

Hornstone, associated with other siliceous minerals. (C.)

HURON CO.

Fluate of Lime, black, with a resinous lustre; by transmitted light it appears of a topaz yellow, or like smoky quartz; in the cavities, the crystals are white and transparent. (Sil. 5.255.)

OHIO.

JACKSON.

Muriate of Soda, on the Sciota; in Jackson are salt wells 300 feet deep; the brine is weak, requiring 213 gallons to a bushel. (C.)

LAKE ERIE. See ERIE LAKE.

LIVERPOOL.

Petroleum. A salt well, while boring, yielded about half a barrel of petroleum daily. (C.)

MARIETTA.

Selenite, near. (C.)

MEDINA CO.

Petroleum, in the north part of the county, on Duck Creek. (C.)

MONROE CO.

Petroleum, about 30 m. from Marietta, and in various other parts of the state. (C.)

MUSKINGUM CO.

Coal. Common stone coal, highly bituminous, is found abundantly. (Sil. 1.239.) See Zanesville.

PERRY CO.

Chalcedony,
Flint, sometimes in alluvial beds, and sometimes connected with
Limestone.
Hornstone, associated with other siliceous minerals. (C.)

POLAND. See TRUMBULL CO.

PRESQUE ISLE. See WOOD CO.

ROCHE DE BOUT. See WOOD CO.

SANDUSKY BAY.

Snowy Gypsum is found in a large body on the shore of the N. side of Sandusky Bay, in extremely delicate crystalline

scales, so minute as scarcely to be discernible by the naked eye—color, pure white, with here and there a slight tinge of grey; it might be wrought as an alabaster, and is more beautiful than any thing which has been produced in this country. (*Sil.* 5.39.) It forms a continuous, horizontal stratum, from the flat shore of the lake, near the light house into the bed of Lake Erie. (*Sil.* 7.48.)

Quartz, perfectly milk white, Sandusky Bay. (*Sil.* 5.39.)

SCIOTA RIVER.

Muriate of Soda. Salt springs are found on the banks of the Sciota.

Selenite occurs in alluvial deposit, on the banks of the Sciota.

Jasper is found on the banks of the Sciota. (*C.*) The principal works for the manufacture of salt in this state are seated on the Seweetly, and Sciota rivers. (*Sch.*)

STEUBENVILLE.

Sulphuret of Iron is found in

Clay Slate, or

Shale, belonging to the coal formation. Manufactories of the *Sulphate of Iron* are established here. (*C.*)

TRUMBULL CO.

Selenite, at Poland, in fine crystals, resembling those from Oxford, Eng. (*C.*)

Crystallized Gypsum has been found in Ellsworth, in perfect, rhomboidal crystals. (*Sil.* 4.51.)

Sulphuret of Iron, having every appearance of a petrification of the body and limbs of a frog. (*Sil.* 5.255.)

WOOD CO.

Sulphate of Strontian, on Presque Isle, on the Maumee river, about 40 m. S. of the noted locality of this mineral upon "Strontian Island." It is the site of Wayne's celebrated victory over the confederated Indians, in 1794. The Maumee river here washes a rocky shore, surmounted by a grove of oaks, with an extensive prairie back of it. The crystals of strontian are plentifully imbedded in the rocky bank of the river, which is a

Compact Limestone, similar in its characters to that which

pervades the shores of Lake Erie. Some of these crystals of strontian contain *other* crystals of *Calcareous Spar*, imbedded. *Calcareous spar* is found abundantly at Roche de Bout, on the Maumee river, imbedded in limestone, exhibiting its most common forms of crystallization, and frequently in perfect dodecahedrons of a light yellow hue. (*Sil.* 7.46, & 47.)

ZANESVILLE.

Muriate of Soda. There is a salt well 8 m. below Zanesville, on the Muskingum, 213 feet deep, and furnishes 80 bushels of salt daily; 95 gallons of brine yield a bushel, which sells at \$1.50.

Aluminous Slate, 7 m. W. from Zanesville, in beds from a few inches to 3 feet thick, in horizontal strata, sometimes between strata of sandstone, but generally over

Shale.

Potter's Clay, near, color white, with a tinge of blue.

Coal, near, in sandstone, in which are found fossil fish, and trees, converted into sandstone.

Sulphuret of Iron, near, on the Muskingum, from which is manufactured the

Sulphate of Iron.

Ochrey Red Oxide of Iron occurs between this and Wheeling, in beds of ferruginous sandstone.

Sulphuret of Lead occurs on the S. side of Licking Creek, between this and Newark.

Sulphuret of Antimony, near. (C.)

Argillaceous Oxide of Iron is the principal ore wrought in this place (*Sch.*)

Bituminous Shale, a stratum 2 or 3 feet thick, full of indistinct impressions.

Carbonized Wood, in sandstone; also

Petrified trunks, and branches of trees are often found, the bark generally changed to stone coal, in the bed of the Muskingum. (*Sil.* 3.5.)

Alum-stone is frequently found 1, 2, and 3 feet in thickness, remarkably rich, in great abundance, and in many places immediately above the shale. (*Sil.* 3.245.)

INDIANA.

Coal.

Sulphuret of Lead.

Native Bismuth is said to have been observed in small quantities.

Sulphuret of Antimony. (C.)

Limestone, blue and grey, and their various mingled and intermediate shades, much of which contains shells, sandstone of various shades of grey and brown, and

Clay Slate, constitute the rocks of this state. (*Sil.* 1.131.)

Rock Crystal,

Chalcedony, and

Agate, are often found in the beds of rivulets. (*Sil.* 1.132.)

Carbonate of Lime, crystallized, is sometimes found; and many of the caves afford fine

Stalactites.

Petrifications are very common.

Sulphur, many of the springs are strongly impregnated with it.

Sulphuretted Hydrogen, some of the springs are saturated with this gas.

Clay, many varieties.

Ochres, Iron Ore,

Gypsum, Alabaster,

Muriate of Soda, very common, and

Antimony. (Sil. 1.133.)

CORYDON.

Sulphate of Magnesia, near, in a very large cavern in *Limestone*, where it occurs crystallized, in delicate, shining, white prisms, forming a stratum on the bottom several inches deep; or appears in masses, sometimes weighing 10 lbs. or is disseminated in the earth of the cavern, 1 bushel of which yields from 4 to 25 lbs. of this sulphate. It also appears on the walls of the cavern; and if removed, acicular crystals again appear in a few weeks. The same cavern contains

Sulphate of Lime, and

Nitrate of Lime, and

Nitrate of Magnesia. (C.)

LEATHER-WOOD CREEK.

Chalcedony, on the bottom of the Creek, in spheroidal masses, sometimes of the size of a large melon, forming geodes, whose interior presents

Crystals of Quartz,

Amethyst, &c. or globular chalcedony.

Agates, on the bottom of the Creek, in geodes, sometimes of great beauty. (C.)

Rock Crystal, agate, chalcedony, &c. are found covering the bottom of this Creek. (Sil. 1.132.)

RACON CREEK.

Buhrstone covers an area of from 10 to 15 acres square. This Creek is noted throughout the western country, for the millstones procured on its banks. (Sch.)

SAND CREEK.

Buhrstone, on this Creek, 60 m. from White river, occurs abundantly. (C.) Practical millers, who have examined this buhrstone, have pronounced it equal, if not superior, to the French burrs. The locality is 20 acres in extent, and appears to be inexhaustible. These millstones may be carried down the White, Wabash, Ohio, and Mississippi rivers, to New Orleans, with great facility. (Sil. 1.132.)

WABASH RIVER.

Muriate of Soda. Salt springs are found on the banks. (C.) *Calcareous Spar*, massive and translucent, of a honey yellow color, forming the *cement* of a beautiful variety of pudding-stone, occurs on the right bank of the Wabash, 5 leagues above the junction of the Tippecanoe river.

Calcareous Tufa, on the left bank of the Wabash, directly opposite the preceding, forming a long line of precipitous cliffs, fronting the river, and covered with forest trees of a small and recent growth. (Sil. 7.47.)

MICHIGAN.

DETROIT RIVER.

Sulphate of Strontian, on Grose Island, in Detroit river, where it exists both in foliated masses and crystals; color varies from white, to dark bluish white. (C.)

Compact Limestone forms the bed, or gangue of the strontian, which lines some of its cavities. (Sil. 5.40.)

Sulphuret of Mercury occurs in the form of a black sand, and red sand, on the shores of Lakes Michigan, Huron, St. Clair, Detroit river, and around the whole shore of the western end of Lake Erie, to the Vermilion river, in great abundance. (C.) The whole body of the soil is interspersed with this sand through the whole of this extensive district of country. But generally it is more abundant in banks of fine ferruginous clay. It is easily collected, and yields, by distillation, about 60 per cent. of mercury. (Sil. 1.433, & 2.170.)

GOOSE ISLAND.

Fibrous Gypsum. This island is 9 m. from Michilimackinac, in Lake Huron, on the rout to the *Sault* of St. Mary. The gypsum is imbedded in a kind of loomy clay, which forms a flat on the S. E. end of the island; the masses are detached,—it is associated with a granular variety, imbedding small crystals of brown, or yellowish brown, foliated gypsum, variously grouped. (Sil. 7.47.)

GRAND RIVER.

Gypsum, on this river. (C.)

HURON LAKE.

Chalcedony, on Shawangunk Island.

Staurotide, on the shore, E. from Saganaum Bay in mica slate.

Sulphuret of Mercury, in the form of a black and red sand, very abundant on the shore of this lake, &c. It yields 60 per cent. of mercury by distillation. (C.)

Sulphate of Strontian, on the N. shore of Lake Huron, in ra-

diated crystals, in connection with, and shooting into, limpid masses of

Foliated Gypsum, in

Limestone, having impressions of the madreporæ upon its surface. (*Sil.* 7.46.)

LAKES. See their proper names.

MICHIGAN LAKE.

Marl, the variety called *Ludus Helmontii*, (*septaria*,) is found on the eastern shore, between the rivers Black Water, and Kikalemazo.

Sulphuret of Mercury, very abundant in the form of a black sand and red sand, in the soil, and on the shore of Lake Michigan, &c. (*C.*) See Detroit River.

MICHILIMACKINAC CO.

Milky Quartz; also

Greasy Quartz, at the *Sault de Ste. Marie*, in detached fragments, white, opaque, laminated, and possessing the peculiar fatty lustre.

Clay Stone, on the banks of the St. Mary's river, near the *Sault*, or Falls of St. Mary; it occurs in detached, rounded, or elongated masses, in a kind of clay which is employed for bricks; it is sometimes found in loose masses along the banks of the river. It assumes various imitative forms. (*Sil.* 7.48, & 49.)

POINT KEWEENA. See SUPERIOR LAKE.

SAULT DE MARIE. See MICHILIMACKINAC.

ST. CLAIR LAKE.

Sulphuret of Mercury, on the shore, in the form of a black and red sand, very abundant. (*C.*)

ST. MARTIN'S ISLANDS.

Gypsum, on these Isles, 10 m. N. E. from Michilimackinac, in large, detached masses on the soil; it is generally foliated, and mixed with scattered masses of

Fibrous Gypsum. (*C.*) Fibrous gypsum also occurs on these Isles, 4 m. from Mackinaw, in a vein 2 inches thick, and tolerably handsome. (*Sil.* 5.40.) See Goose Island.

NORTH WEST TERRITORY.

241

ST. MARY'S RIVER. See MICHILIMACKINAC.

SUPERIOR LAKE.

Compact Malachite, at the extremity of the great Peninsula of Keewiweenon, which stretcheth from the southern shore of the Lake towards *La Baie Noire*, and is about 225 m. from *Sault St. Marie*. This ore exists in a vein about 1 fathom in width, rising with a broken, hackly surface out of the water, and extends in a direct line from the Lake into the interior. (*Sil.* 7.44.)

Smoky Quartz, at Point Keewiweenon, (or Keweena,) in a crystalline mass, associated with

Amethyst. This mass separates with a blow of the hammer into innumerable, translucent, dull crystals, deeply striated across the lateral plains, and sometimes terminated by smooth, 6 sided pyramids. The colors are so mingled in some pieces, as to make it difficult to determine, whether to refer them to smoky quartz or amethyst.

Chalcedony, same place, imbedded in amygdaloid, in globular masses, from the size of an ounce ball to that of a hen's egg. Also very plentifully along the shore, more or less abraded.

Agate, with the preceding, imbedded or detached. They are all onyx agates, consisting of parallel stripes of variously colored chalcedony, jasper, hornstone, or quartz—in size from small nodules to a 32 lb. shot.

Mica, in the granite of the Porcupine Mountain, in large folia, of a silvery and pearly pure. (*Sil.* 7,48, & 49.)

Apophyllite, in fine crystals in amygdaloid. (*Bigsby.*)

NORTH WEST TERRITORY.

BOIS BRULE RIVER.

Magnetic Iron Sand forms a stratum 1 foot thick, near this river, which empties into Lake Superior. (C.)

CHEGOIMEGON POINT.

Native Copper, 80 m. W. from the Ontonagon, in a mass

weighing 28 lbs. has been found, of a compact texture, malleable, and not alloyed with other metals. (C.)

FALLS OF ST. ANTHONY.

Steatite, (? Indian pipe stone,) at these falls, color red, texture compact. (C.)

KEWEENA POINT.

Native Copper, at the Portage across the Point, from the size of grains to that of masses weighing 2 lbs., is disseminated in rolled pebbles. (C.)

ONTONAGON.

Native Copper, about 30 m. S. from Lake Superior, on the W. bank of the river Ontonagon, a very large mass has been found, weighing, by estimation, about 2200 lbs. It is connected with serpentine, in which small masses and grains of native copper are disseminated; and it lies near the water's edge, at the foot of an elevated bank of alluvion. (C.) A mass of native copper, weighing 42 lbs. very pure and malleable, and containing small points of *Native Silver*, was obtained from the waters of this river. (Sil. 7.46.) See Superior Lake.

PRAIRIE DU CHIEN.

Carnelians, and

Agates, very well characterized, on the alluvial banks of the Mississippi, at Prairie du Chien. (Sil. 5.39.)

Sulphuret of Lead, at Prairie du Chien, 500 m. above St. Louis, on the Mississippi, where it is worked by the savages. (Sch.) *Galena*, very beautiful, broad, foliated, like that of the Missouri mines, occurs 7 m. below the Ousconsin, on the E. bank of the Mississippi. The mines lately belonged to the Sacs and Foxes. (Sil. 5.40.)

SUPERIOR LAKE.

Prase, near Grand Isle, on this Lake; it is translucent, and of a uniform, light leek green.

Chalcedony, on the S. side of Lake Superior, near Portage river; also

Carnelian, same place. (C.)

Reddle, a very fine quality. Indian pipes are made of it,—on the banks of Lake Superior. (Sil. 5.40.)

ILLINOIS.

ALTON.

Coal, near. (C.)

BIG MUDDY RIVER.

Native Copper has been observed on this river. (C.)

Stone Coal. The banks of this river afford large beds of good inflammable stone coal. (Sch.)

CAVE-IN-ROCK.

Fluate of Lime is found occasionally on the soil for 30 m. S. W. from Cave-in-Rock, on the Ohio. It occurs massive, or in cubes, solitary or aggregated, and is associated with galena, &c. in alluvial deposit, or in veins which appear to traverse compact limestone, and calcareous sandstone. (C.) This mineral occurs at a lead mine, about 3 m. back of Cave-in-Rock, on the Ohio river, about 15 m. S. of Shawneetown, Gallatin Co., and about 12 m. from the United States Saline, on Saline river. Its colors are very beautiful, of various shades of purple, violet, and blue; some specimens entirely limpid. It is accompanied by

Sulphuret of Lead,

Sulphuret of Iron,

Sulphuret of Zinc, &c., imbedded in a stiff, red clay, resting on *Secondary Limestone*.

Coal has been found in the same neighbourhood.

Precious Opal; one specimen was found at locality of fluor, where is found also

Madrepore, and

Calcareous Spar. (Sch.)

CHICAGO.

Coal is found about 40 m. S. W., near the junction of Fox river, with the Illinois. (C.)

Compact Limestone, containing fossil remains, is quarried in this vicinity. (Sil. 4.289.)

DES PLAINES.

Agatized Wood. A petrified tree was found in the bed of the river Des Plaines, about 40 rods above its junction with the Kankakee, imbedded in a horizontal position in a stratum of newer floetz sandstone, of a grey color, and close grain. There is $51\frac{1}{2}$ feet of the trunk visible, 18 inches in diameter at its smallest end, and probably 3 feet at the other end. (*Sil.* 4.285.)

EDWARDSVILLE.

Sulphuret of Antimony, about 30 m. N. A body of it was discovered during the late war by a militiaman. (*Sch.*)

GRAND PIERRE CREEK.

Fluate of Lime, at the 3 forks of Grand Pierre Creek, 27 m. from Shawneetown; occurs on the surface of the soil, in masses, which are sometimes several feet in diameter; its colors are violet, rose, and green.

Brown Oxide of Iron occurs at the 3 forks, in considerable quantities. (*C.*)

MONROE CO.

Native Copper, in detached masses; one weighing 7 lbs. was found in the Highlands back of Harrisonville. (*C.*) A shaft was sunk 40 feet deep in 1817 at this place, in search of copper, and

Red Oxide of Iron, compact, and an *Oxide of Copper*, were found. (*Sch.*)

PETER'S CREEK.

Fluate of Lime, 17 m. from Shawneetown; it is almost always in crystals, sometimes several inches in diameter, presenting very rich and beautiful colors: though sometimes limpid, and sometimes nearly black, its more common colors are some shade of violet, purple, red, or yellow. The limpid and yellow crystals are sometimes invested with a thin violet, or red coat. It is usually phosphorescent by heat, excepting when nearly black.

Fetid Fluate of Lime. The violet, red, and yellow crystals of the above, are often fetid by percussion.

Sulphuret of Lead, same place, sometimes in cubes, with truncated angles.

Brown Oxide of Iron, same place, in considerable quantities. (C.)

SALINE RIVER.

Muriate of Soda, 12 m. W. from Shawneetown, on this river, is a spring belonging to the United States, and yielding annually, at least 150,000 bushels of salt, the price of which at the works is 70 cents a bushel. (C.)

SHAWNEETOWN.

Fluate of Lime occurs on the Ohio for 30 m. S. W. from *Cave-in-Rock*, on the soil, massive, and in cubes, beautiful, and very abundant; also 3 m. back of *Cave-in-Rock*, 15 m. S. of this place, very beautiful; also at the 3 forks of the *Grand Pierre Creek*, 27 m. from this, in large masses; also on *Peter's Creek*, 17 m. from this, almost always in crystals, very beautiful and abundant, some of which is fetid by percussion. (Sil. 3.244.) See the above places. in italics. *Fluor Spar* is found not far from this town, on the banks of the Ohio, and a few m. below where the *Wabash* joins the Ohio. It forms the gangue of a vein of the *Sulphuret of Lead*, which has a broad, foliated fracture, and a high degree of metallic splendor. Sometimes the galena and fluor are intimately blended.

Quartz Crystals appear to abound at the same place, besides various other minerals. (Sil. 1.52.) Loose masses of fluor spar have been found, as large as a 24 lb. shot, of a fine violet color, and the surface completely covered with cubical crystals. (Sil. 3.244.) A specimen more than 6 inches square was found, on which were deposited between 300 and 400 distinct cubes and parallelepipeds, some of which are 1 inch in diameter, and others so minute as to be almost microscopic, of a deep violet, and purple color. The locality of fluor spar of this region is the most remarkable that has been observed in North America, and probably one of the most interesting in the world. (Sil. 3.367.)

ST. CLAIR CO.

Gypsum occurs in this county, crystallized. (C.)

Agaric Mineral is found as a sediment in a spring, soft, spongy, of a grey color, and soiling the fingers; it appears to be a pure carbonate of lime. (Sch.)

MISSOURI.

Yellow Quartz, on the banks of the Mississippi, in rolled masses, varying from pale orange yellow, to yellowish red.

Radiated Quartz is found near the lead mines, in loose masses in the soil.

Pumice is said to float down the Missouri; it is composed of minute globules, or spheroids, usually greyish white, sometimes brown, red, or black. (C.) This supposed pumice is believed to be from the beds of amygdaloid, in the trap formation, near the sources of the Canadian river of the Arkansâ. (*A. L. N. H. N. Y.* 1.21.) This pumice is undoubtedly a pseudovolcanic production. (*T. Nuttall.*)

Sulphuret of Antimony. (C.)

Basanite, in rolled masses, on the shores of the Mississippi.

Sulphuret of Lead. The most important locality of lead ore, which the United States, or the world contains, is furnished by the metalliferous limestone of Missouri, and which breaks out, or has been explored at various places, from the banks of the Arkansâ river to Prairie du Chien, on the Mississippi, a distance, in a direct line from S. to N., of 700 m. The number of mines now wrought in Missouri, is 45, and the quantity of lead annually smelted, is estimated at 3,000,000 lbs. The ore yields, on assay, 82 per cent. of metallic lead, and the remainder is chiefly sulphur. It is found accompanied by sulphate of barytes, calcareous spar, quartz, pyrites, and blende. (C.) & (Sch.) See Jefferson, Madison, St. Genevieve, and Washington counties.

Tabular Quartz,

Carnelian, and Carnelian Agate.

Opalized Wood, and

Agatized Wood, are found dispersed along the shores of the Mississippi; the 2 last are found also along the shores of the Missouri. (Sch.)

Sard, in rolled pebbles along the banks of the Missouri, and very similar to those from the East, probably the **Yellow Quartz**, mentioned above.

Lignite, with **Agatized Wood**, forming a continued stratum,

commencing a few miles above the Arikaree Village, and continuing to the confluence of Yellow Stone River, commonly from 150 to 200 feet below the surface. (*T. Nuttall.*)

BELLEVUE. See WASHINGTON CO.

BIG RIVER. See ST. GENEVIEVE CO.

BLUE WATER CREEK.

Gypsum is found on this creek. (*C.*)

BOONS LICK.

Muriate of Soda, in salt springs at this place. (*C.*)

CAPE GIRARDEAU CO.

Chalk, in great abundance, on the W. bank of the Mississippi, of a fine quality, and in considerable quantities, at a place called the Little Chain of Rocks, 35 m. above the mouth of the Ohio, for a $\frac{1}{4}$ of a m. along the bank, in the course of which several pits have been opened; also directly opposite the mouth of Big Muddy River. (*Sch.*) Naturalists who have recently visited this country, consider this supposed chalk as white marl. (*T. Nuttall.*)

Citrine, or *Yellow Quartz*, water-worn fragments of limpid quartz, of a yellow color, and possessing a high lustre, and great hardness, are found on the banks of the Mississippi, at various places between Cape Girardeau and St. Louis. (*Sch.*) Probably sard. See Missouri.

Flint, imbedded in the chalk, in nodules, which are enveloped by a hard crust of carbonate of lime, arranged in concentric layers.

Yellow Earth, near the chalk banks, on the W. side of the Mississippi river, where a kind of

Red Ochre is also found.

Hornstone, on the W. bank of the Mississippi, between this and St. Louis, in globular and elliptical masses, in secondary limestone; it is brown, with shades of yellow, red, blue, or black, and sometimes passes into

Chalcedony, and common quartz. It may be particularly noticed at the Grand Tower, 2 m. above the mouth of Big Muddy River, and at the Hanging Dog. (*Sch.*)

MISSOURI.

CAVE CREEK.

Stalactites, in caverns, on this creek, which empties into Current's River, pendent from the roof, and sometimes reaching the floor. (C.) These caves, at present in the wilderness, are about 80 m. S. W. of Potosi, near Ashley's Saltpetre cave.

Nitrate of Potash is found in the earth of these caves, which are now dry, and efflorescent on the rocks. (Sch.)

Jasper, in the bed of this creek, near the head of Current's River, blue and white, striped in a stratum in

Secondary Limestone, (C.) 80 m. S. W. of Potosi. (Sch.)

DESMOINES RIVER.

Steatite, (? Indian pipe stone,) red, and compact, near the head of the River Desmoines, of the Mississippi. (Sch.)

ESTABLISHMENT CREEK.

Chalcedony, at Establishment Creek, St. Genevieve Co.; it is bluish, yellowish, or milk white, or brownish yellow, and sometimes spotted, zoned, or dendritic.

Hornstone, 8 m. from St. Genevieve, on the soil, with chalcedony, and

Agate, whose colors are arranged in concentric lines. (C.)

FALLS OF ST. ANTHONY. See ST. ANTHONY'S FALLS.

FLORISSANT.

Coal. (C.)

FORT MASON.

Steatite, near Fort Mason, on the Mississippi, whose colors are various shades of yellow and green, intermixed. (Sch.)

GASCONADE RIVER.

Compact Red Oxide of Iron, at the head of the river. (C.)

Nitrate of Potash, several caves are worked on this river; and there are few caves in this region which do not afford nitre.

Sulphuret of Lead is found on this river. (Sch.)

HERCULANEUM.

Chalcedony, on the banks of the Mississippi, at this place.

Carnelian, same place, &c. in rolled masses ; its color is red of different shades, sometimes intermingled with honey yellow, or exhibits a uniform smoke brown. (C.)

Tabular Quartz, on the W. bank of the Mississippi, in small, irregular shaped, detached plates, greyish white, from which it passes into bluish white, milk white, and pale yellow. Some specimens possess the hardness and translucency of cacholong, and chalcedony, to which it seems nearly allied ; abundant.

Citrine, or *Yellow Quartz*, on the banks of the Mississippi, of great hardness, and high lustre, colors from a light orange yellow, to a brandy red. (Sch.) Both these articles appear to be varieties of chalcedony. (T. Nuttall.)

MAHA VILLAGE.

Chalk, well characterized, occurs on the banks of the Missouri, near this village, and apparently destitute of organic remains. (T. Nuttall.)

JEFFERSON CO.

Potter's Clay, at Gray's mine, snow white, unctuous, adhering strongly to the tongue, and becoming plastic in water ; it retains its whiteness, and is infusible in a high heat. (C.) This locality covers a considerable area of ground on the banks of Big River, which is one of the principal tributaries of the Merrimack, 8 or 10 feet from the surface. (Sch.)

Sulphuret of Lead. The ore is found in alluvial deposit of stiff, red clay, which is often marly, and contains numerous, detached masses of quartz, here called the *Blossom of Lead*. This alluvion, which varies from 10 to 20 feet in depth, rests on limestone, which appears to belong to the transition class. This galena, which has usually a broad, foliated structure, and a very high lustre, occurs in masses of various sizes, in veins, and beds, and is most abundant in the marly clay. It is associated with

Sulphuret of Barytes,

Calcareous Spar,

Quartz, and

Sulphuret of Zinc. (C.) See Sulphuret of Lead, under Mis-

souri. The mines wrought in this county are Gray's mine, on Big River, and M'Kane's mine, on Dry Creek.

Muriate of Soda. Salt springs are found within a few m. of the sulphur springs. At two of these springs, salt is manufactured, but the works are small.

Hornstone is strewn in detached fragments over the uplands.

Sulphur. A spring exists in this Co., the waters of which are highly charged with sulphur, which it deposits on the stones over which it runs. (*Sch.*)

LAURENCE CO.

Marble, in the hills of this county. The kind that is most abundant is brick colored, with brown stripes, (resembling the Italian *Rosso di Monte Catini*.) The next is a plain, flesh colored marble. (*Rosso di Caldonna*.) A white and black marble is the first that occurs at the foot of the ridges; it is a most beautiful variety, (*Nero, y Bianco Antico*.) Many other varieties are found in the branches of the creeks. The kinds first mentioned are found in great plenty. The first covers more than 50 m. of surface. (*Sil.* 3.23.) A stone, resembling granite, although it is no granite, is found 10 m. S. of Batisses ford, St. Francis river, on the road from Laurence court house to St. Michael, exceeding in beauty any thing of the kind, composed of pure, transparent, prismatic crystals, of the size of grains of wheat, cemented with very black crystals of the same size and shape, without the appearance of any other mixture, or color. The quarry is inexhaustible, and blocks of any size, from one to a thousand feet, may be got, precisely alike in every part.

Sulphuret of Antimony, not far from the above place, has been found, and is said to be in great quantity. (*Sil.* 3.24.)

Hornstone is strewn in detached fragments over the uplands of Lawrence Co. (*Sch.*)

MADANSBURGH.

Muriate of Soda. Salt springs occur here. (*C.*)

MADISON CO.

Graphite, near mine La Motte, &c.

Micaceous Oxide of Iron, at the Narrows, near the St. Francis, in a vein traversing red granite. (*C.*) This locality is

on the banks of the river St. Francis, 4 m. S. of the extensive lead mines of La Motte. The vein of this ore is several feet wide. (*Sch.*)

Sulphuret of Lead, in Mine La Motte, within 2 m. of St. Michaels, on the head waters of the river St. François,—one of the oldest mines in the state, and the only one now wrought in this county,—discovered in 1720; it is very extensive. (*C.*) & (*Sch.*) See Missouri.

Hornstone, strewn in detached fragments over the uplands. *Schort*, imbedded in certain granitic aggregates in this Co., in ill defined crystals.

Feldspar, in crystals, imbedded in greenstone, on the banks of the river St. Francis, at a place called the *Narrows*,—color, a flesh red, graduating into green on the edges. (*Sch.*)

OSAGE RIVER.

Coal, on this river. (*C.*)

Sulphuret of Lead, on this river. (*Sch.*)

PEPIN LAKE.

Carnelian, near Lake Pepin, on the Mississippi; it is often associated with

Common Chalcedony,

Cacholong, &c. (*C.*) Carnelian is very abundant on the shores of this lake; (Sepin?) and it may be traced below Prairie du Chien, and even as low as St. Genevieve. In descending the Mississippi it is constantly met with in the alluvial soil. Many of these specimens may be considered as

Sardonyx. (*Sil.* 3.215.)

POTOSI. See WASHINGTON CO.

SANDY LAKE.

Carnelian, near, at the head of the Mississippi; it is often associated with

Common Chalcedony,

Cacholong, &c. (*C.*) This is a good locality of carnelian, and it is found around the shores of the numerous little lakes in this region. (*Sil.* 3.215.)

ST. ANTHONY'S FALLS.

Steatite, near, on the Mississippi, red, and of a compact texture, employed by the natives for bowls of tobacco pipes.

(C.) Is this steatite?

Carnelian is sparingly found at the foot of the Falls. (Sil. 3.215.)

ST. FRANCIS RIVER.

Sulphuret of Lead, on this river. (Sch.)

ST. GENEVIEVE CO.

Granular Quartz, 8 m. from St. Genevieve Co., snow white, friable, and falls into transparent grains. (C.) This is on the road to Potosi, of a beautiful appearance, resembling refined sugar. It occurs in several caves near the road, whose sides are entirely composed of it. It is suitable for making the best flint glass. (Sch.)

Chalcedony, on Establishment Creek; it is bluish, yellowish, or milk white, or brownish yellow, and sometimes spotted, zoned, or dendritic.

Sulphuret of Lead. (C.) See Sulphuret of Lead under Missouri. The lead mines now wrought in this Co., are Mine à Joe, on Flat River, Bryan's mines, at Hazle Run, and Dogget's mine, Hazle Run.

Citrine, or *Yellow Quartz*, near, in water-worn fragments, possessing a high lustre, and great hardness, color, from a light orange yellow to a brandy red. *Chalcedony*, on the W. of Establishment Creek, is seen passing into the

Onyx Agate. See Sard, Missouri.

Hornstone is scattered, in detached fragments, over the uplands of this Co.

Jasper, along the banks of the Mississippi, between St. Genevieve and St. Louis, in rolled masses, colors bottle green, striped, &c.

Opalized Wood, small pieces in the form of a parallelogram, accompanied by the common

Agatized Wood, of the Missouri, by yellow quartz, and by chalcedony, are distributed very plentifully along the shores of the Mississippi, between St. Genevieve and St. Louis.

Graphite is found in small quantity on Big River.

Muriate of Soda. The principal works for the manufacture of salt in this state, are seated at St. Genevieve, and Boons Lick.

Fuller's Earth. The great field of St. Genevieve, where it forms the bank of the river, contains some very fine strata of Fuller's earth, observable only at a low stage of the water. (*Sch.*)

ST. LOUIS.

Hornstone, on the W. bank of the Mississippi, between this and Cape Girardeau, in globular and elliptical masses, in *Secondary Limestone*,—brown, with shades of yellow, red, blue, or black, and sometimes passes into

Flint,

Chalcedony, and common quartz.

Agatized Wood, near, on the banks of the Missouri and Mississippi.

Jasper, on the banks of the Mississippi, between this and St. Genevieve, in rolled masses; colors bottle green, striped, &c. (C.)

Citrine, or **Yellow Quartz**, in water-worn, limpid fragments, of a high lustre, and great hardness, are found at this place, and on the banks of the Mississippi, at various places between this and Cape Girardeau, color varies from a light orange yellow to a brandy red. **Hornstone** may be particularly observed at the Grand tower, 2 m. above the mouth of Big Muddy River; also at the Hanging Dog, and it is found in detached fragments scattered over the uplands of St. Louis Co. It is also found in irregular, rounded masses, imbedded in

Secondary Limestone, at Choteau's mills near St. Louis.

Opalized Wood, accompanied by the common agatized wood of the Missouri, by yellow quartz, by chalcedony, in small pieces, in the form of a parallelogram, are distributed very plentifully along the shores of the Mississippi, between this and St. Genevieve. (*Sch.*)

ST. PETER'S RIVER.

Steatite, red, and of a compact texture, abundant between this and Soux River; (C.) also near the head of St. Peter's, and Pipe-Stone Rivers of the Missouri. (*Sch.*) (?)

Native Copper, in rounded pieces, near the mouth of this river, which empties into the Mississippi; it is frequently covered with a coating of the

Green Oxide of Copper, and is disseminated among limestone rocks. (*Sil.* 5.39.)

STRAWBERRY RIVER.

Sulphuret of Lead, on Strawberry River. (Sch.)

TYAWAPETY BOTTOM.

Flint, at the head of Tyawapety Bottom, about 35 or 40 m. above the junction of the Ohio with the Mississippi, in nodules, and veins or strata, embraced in a horizontal bed of white clay, and so arranged as to form with it an angle of about 50°. The bed of clay rests on siliceous sandstone, and is covered by

Shell Limestone.

Potter's Clay, on the right bank of the Mississippi, commencing near the head of Tyawapety Bottom, about 40 m. above the junction of the Ohio, and extending for 34 m. to nearly 6 m. below the Grand Tower rock. It is snow white, pulverulent, has a fine texture, smooth to the touch, and adheres strongly to the tongue. This extensive bed of clay, from 1 to 10 feet in thickness, rests upon a horizontal stratum of sandstone, is covered by shell limestone, and contains flint in nodules, veins, or strata. (C.)

WASHINGTON CO.

Calcareous Spar, in white, or honey yellow, transparent masses, in a red, marly clay.

Ferruginous Quartz, at Mine à Burton, in deep red, opaque, rolled masses, having a strong, vitreous lustre.

Chalcedony, at the lead mines, in concentric layers, usually bluish white, and sometimes invested with crystals of quartz.

Reddle, dark red, forming a bed of considerable extent.

Micaceous Oxide of Iron, in *Bellevue*, micaceous iron forms a ridge from 500 to 600 feet high, and $\frac{1}{2}$ a m. long; it is in shining laminæ, and sometimes associated with

Red Oxide of Iron, and quartz.

Sulphuret of Lead, in an alluvial deposit of stiff, red clay, which is often marly, and contains numerous, detached masses of quartz, here called the *Blossom of Lead*. This alluvion, from 10 to 20 feet thick, rests on limestone, of the transition class. (C.) There are 39 lead mines in this county, the principal of which are Mine à Burton, Burton township. New Diggings, Burton's township, Mine Shibboleth, Union township, and Lebaum's mine, which

is in the township of Richwoods. See Sulphuret of Lead, under Missouri.

Nitrate of Potash ; 3 salt petre caves are worked in this Co. on the Merrimack.

Sulphate of Barytes, forming the matrix of the lead ore at Mine à Burton, Mine Shibboleth, Old mines, and the numerous other mines in this Co. Sometimes it is found detached from any ores, and the quantity found at Potosi alone, is sufficient, probably, for the supply of the whole world. It is generally found in compact, or tabular masses, very white, heavy, and glistening. Sometimes it is crested, columnar, prismatic, or lamellar, and frequently the surfaces of the crystals are yellow, from an ochrey oxide of iron.

Alum. There is a cave in Bellevue, which yields alum ; it is found effloresced.

Radiated Quartz is common at the lead mines of this state ;—more abundant in this Co., where it is called *Mineral Blossom*.

Hornstone in detached fragments, is scattered over the uplands of this Co.

Yellow Earth is frequently met with in digging for lead ore.

Graphite is said to have been discovered in a very large body, 12 m. S. of Potosi.

Sulphuret of Iron, in Mine à Burton, New Diggings, Old mines, and Renault's mines, sometimes in handsome cubes, or lamellar masses, and sometimes interspersed with the

Sulphuret of Zinc, heavy spar, and galena.

Oxide of Manganese. 6 days' journey S. W. of Potosi, (40 m. E.) in a large body, near the head of Merrimack river. (Sch.)

ARKANSAS.

Muriate of Soda, near the northern sources of the Arkansâs river ; this salt forms incrustations of considerable thickness and solidity, on the soil of plains and prairies. See

Fort Osage. Salt springs exist both on this river and the Wachitta.

Gypsum, on the S. bank of the Arkansâs River; sulphate of lime, often crystallized, and transparent, is associated with red clay.

Anthracite, on the N. side of Arkansâs River, 500 m. from its mouth; anthracite, of good quality, forms a large bed, (C.)

The forementioned bed consists of

Bituminous Coal, nearly opposite to the north of Grand River of Arkansâs. (T. Nuttall.)

Iron Sand, on the banks of the Arkansâs, near where the main road to Red River crosses, in an aggregated form, dark brown.

Sulphuret of Lead, on the Arkansâs River. (Sch.)

BEAR CREEK.

Flint, near the head of Bear Creek, which empties into White River, in yellowish brown nodules. (C.) This flint is found 900 m. above the junction of the White River with the Mississippi. (Sch.) in all probability **Hornstone**. (T. Nuttall.)

CLARK CO. See HOT SPRINGS.

COVE OF WACHITTA.

This place is formed by a circular mountain, shaped like a horse-shoe, and the mountain consists of

Sparry Iron Stone, and

Heavy Spar. This mountain encloses an area of 9 m. of surface, which faces on the Wachitta River, 15 m. below the Hot Springs. (Sil. 3.26.)

Native Magnet, or **Magnetic Oxide of Iron**, on the Wachitta, possessing strong magnetic powers. (C.)

Sulphate of Soda on the Wachitta, is a stone, which on burning, and exposure to the air, yields a substance, of the nature of Glauber's salts.

Mica, common in the transition rocks of this region.

Sulphuret of Iron, of a brass yellow color, in cubes.

Iron Ores, very abundant. The loadstone is represented to be in great quantity.

Sulphate of Copper, and

Sulphate of Zinc, (**Sulphuret of Zinc?**) are found at the Cove. (Sch.)

Muriate of Soda. Six m. below the Cove is a salt work, at which much salt is manufactured, and sold for \$1 a bushel. The water yields one fifteenth of salt. There are salt springs on the Arkansas that yield one sixth of salt.

Alum. 24 m. from the Cove ; between that and the Arkansas, 100 m. to the left of the road, after crossing the third fork of the Saline river, and immediately on its banks, there is an acclivity leading to a perpendicular wall of about 100 feet in height ; this is composed of a black

Aluminous Slate, rather inclining in its position. The observer, on removing a few of the loose slates under his feet, will discover the upper surface of many thousand tons of alum. It is the kind called *Feather Alum*, or *Plumose Alum*.

Buhrstone. On the hills surrounding the Cove, there are some siliceous stones, among the Spathose iron stone, and the fibrous, and compact heavy spar, with which the French burr millstones are made ; and they are pronounced by good judges to be of superior quality. This valley, or cove, affords all kinds of earth of the very best quality for every kind of furnaces and crucibles, for glass manufactories, and iron foundries.

Petuntzé, or

Kaolin, of a very superior quality for porcelain is found here. Materials for glass are equally good and plenty.

Sulphate of Iron is found here in abundance.

Native Copper, one piece, size and shape of an ear of corn, was found here. (*Sil.* 3.26, to 28.)

FINDLEY'S FORK.

Stalactites, in a cavern, on Findley's Fork ; also

Alabaster, in masses sufficiently large and compact, to be employed in the arts. (C.) This Cave is very large, on Findley's Fork, one of the tributaries of White River. The stalactites are in enormous columns, and the floor of the Cave is covered by stalagmites, from the size of a pea to many tons weight. (*Sch.*)

FORT OSAGE.

Muriate of Soda. It is said that an extensive plain 280 m. S. W. from this fort, presents in dry, hot weather, an in-

crustation of clean, white salt, from two to six inches thick.

Gypsum, and

Red clay, were also observed in the vicinity, in strata. (C.)

FOURCHE à COURTOIS.

Sulphuret of Iron, of a brass yellow color, has been found on this stream, which is tributary to the Merrimack. (Sch.)

GRAND RIVER.

Muriate of Soda. Several important salt springs occur near the banks of the river, about 50 m. from its confluence with the Arkansas, from which salt has for several years been manufactured.

Compact, or *Mountain Limestone* with shell, is the rock which borders this river on either side, and contains *Hornstone*, in nodules. (T. Nuttall.)

HOT SPRINGS OF WACHITTA.

These springs, which are interesting, both on account of the heat of their waters, and the variety of minerals found in their vicinity, are situated on Hot Spring Creek, a branch of the Ouachitta, or Wachitta River, (called by some Washitaw,) which empties into Red River. They are 6 m. W. of the main road from Cadron to Mount Prairie, on Red River, in Clark County. (Sch.) Here are about 30 springs, and the heat of the water is 192° of Fahrenheit. They issue out of a bed of

Fibrous Heavy Spar. (Sil. 3.29.)

Limpid Quartz, at the Hot Springs, in very fine, perfect, transparent prisms.

Novaculite, 3 m. above the Hot Springs, occurs of good quality, and often unusually translucent. (C.)

Common Quartz, in veins from 1 to 8 or 10 feet wide, in the argillaceous rock formation, in the neighborhood of the Hot Springs.

Mica, at the Hot Springs, in small, extremely flexible laminae, of a greenish yellow color. (Sch.) *Mica*, in fine crystals, occurs near here in a ferruginous trap. (T. Nuttall.)

JAMES RIVER.

Sulphuret of Lead, on James River, 20 m. above its junction

with Findley River. The Osage Indians smelt the ore and obtain bullets. (C.)

JEFFERSON LAKE.

Muriate of Soda. Near the Arkansâs River, above the Cove of Wachitta, this Lake is situated, and its outlet is navigable for boats. The water of this Lake is a saturated solution of salt, and it is of a bright red, taking its color from red clay, (and not from cinnabar,) which is very plenty on the Canadian. Large blocks of rock salt, of the same color, are found in the crevices of the mountains eastward of these Lakes. There are 3 in a range; their beds are a solid mass of muriate of soda. (Sil. 3.27.)

LAWRENCE CO.

Hematitic Brown Oxide of Iron, 5 m. N. from Strawberry river; it occurs stalactical, reniform, &c.

Oxide of Manganese, associated with ores of iron. (C.) The hematite occurs along with

Cellular Pyrites, and

Argillaceous Oxide of Iron, on the main road leading through Lawrence Co. The locality of the oxide of manganese is on the dividing ridge of land, between Spring River, and the River Eleven-points. (Sch.)

LITTLE MISSOURI.

Sulphate of Lime. About 150 m. up the Little Missouri, which is a fork of the Wachitta, there are inexhaustible quarries of sulphate of lime, of several varieties. (Sil. 3.26.)

MINERAL FORK.

Sulphuret of Iron, of a brass yellow color, on this Fork, which empties into the Merrimack. (Sch.)

PAWNEE MOUNTAINS.

Native Muriate of Soda, rock salt. The hunters and Indians agree in reporting that rock salt actually exists in what they call the Pawnee mountains, near the Arkansâs, which is white and clear like alum, and that the Pawnee and Osage Indians were in the habit of procuring their salt from that spot. (Sch.)

ARKANSAS.

WACHITTA RIVER.

Muriate of Soda. The principal works for the manufacture of salt in this Territory are situated on the Arkansas and Wachitta rivers. (*Sch.*) The Wachitta, 80 m. below the Hot Springs, affords, in a place called the Cove, five points of hills, where the very richest

Magnetic Iron Ore is gathered in enormous heaps; it yields the best of iron.

Cellular Brownish Red Ore which occurs in very large bodies, is likewise found in this Cove, and in many other places, particularly on the N. side of the mouth of Little Missouri, (a fork of Wachitta.)

Sulphate of Lime is found in the Cove, within 200 yards of the magnetic iron ore. Above the ore, and not 100 yards off, is an extensive bed of

Common Talc, (Mica?) the leaves are of an extraordinary size, not less than 5 inches by 7. (*Sil.* 3.26.)

WHITE OAK BAYOU.

Limpid Quartz, crystallized, on the banks of the Arkansas,* about 1 m. below this rivulet, in a vein of quartz about 1 foot wide, traversing a fine-grained, siliceous sandstone; these crystals are scattered over with round masses, or imperfect crystals of a white and diaphanous

Talc, collected into radii, each plate forming the segment of a circle.

Sulphuret of Iron, in cubes.

Magnetic Iron Sand, abundant in the rocks, and scattered along the strand of the river. It was pretended that *Silver Ore* had been found here. (*Nuttall*, 107, & 108.)

WHITE RIVER.

Agate, on the highlands S. of White River, and about 300 m. W. of the Mississippi.

Sulphuret of Iron, on the White River, within 100 m. of its source, attached to rock in cubical crystals, and is reported to exist in quantity.

Sulphuret of Lead, on White River. (*Sch.*)

* The territory and river are usually spelled Arkansas, and the town Arkansas. T. N.

BRITISH PROVINCES.

NOVA SCOTIA.

CAPE BLOW-ME-DOWN.

Amethyst, in greenstone, opposite Patridge Island. (C.)

CAPE BRETON ISLAND.

Coal is found at Sidney of good quality, and is much used at Halifax and St. John's. (C.)

CAPE DORE.

Oxide of Manganese. (C.)

NEWPORT.

Gypsum. Near Newport are extensive and important quarries of sulphate of lime presenting all its varieties, and is sometimes associated with

Selenite, which forms small, foliated, cylindrical masses in the gypsum. It is often connected with

Shell Limestone.

Oxide of Manganese. (C.)

PATRIDGE ISLAND.

Amethyst, near Parsborough, often in geodes, in columnar greenstone, which on the eastern side of the island presents a precipice, nearly 200 feet high.

Chalcedony, same place, in greenstone.

NEW BRUNSWICK.

Jasper, on this island, sometimes very beautiful.

Agate, in greenstone, usually forming geodes. (C.)

SPENCER'S ISLAND.

Reddle occurs on the banks of this island. (C.)

WINDSOR.

Gypsum; near this place are extensive and important quarries of gypsum. It here presents all its varieties, and is sometimes associated with

Selenite. (C.)

NEW BRUNSWICK.

CUMBERLAND BAY.

Coal occurs near the head of this bay. (C.)

MARTINS HEAD.

Gypsum, 50 m. E. from St. John's; it is associated with a puddingstone, or conglomerate, with that variety of sandstone employed for grindstones, and with a red clay. (C.)

NEGRO HEAD.

Amianthus, 7 m. from St. John's, abundant, and is sometimes employed by sailors for wicks in their binnacle lamps. (C.)

ST. JOHN'S RIVER.

Coal is found at Grand Lake near this river. (C.)

QUACOW.

Oxide of Manganese, at this place, about 30 m. from St. John's, of good quality, and abundant. (C.)

LOWER CANADA.

BATISCAN.

Iron Sand, granular, in great quantities. (*Sil.* 8.75.)

Meadow Iron Ore, strewn on the ground in marshes and woods.

Bog Iron Ore. (*Sil.* 8.76.)

BEAUFORT.

Fetid Transition Limestone, between Quebec and Montmorency, in regular, and nearly horizontal strata; it is black and employed as building stone or burnt to lime. (C.)

CAPE DIAMOND.

Fluate of Lime, near Quebec, it occurs in

Fetid Limestone, with quartz and acicular carbonate of lime.

Limpid Quartz, in crystals, sometimes perfect, occurs in *Clay Slate.* (C.)

Coal, in minute seams, jet black, in black transition limestone, (*Sil.* 8.74.)

CAPE EAGLE. See MALBAY.

CAPE TOURMENT.

Schorl. (*Sil.* 8.61.)

Mica, in plates 1 foot in diameter, in porphyritic granite. (*Sil.* 8.68.)

Calcareous Spar, white, in veins in the gneiss. (*Sil.* 8.70.)

Scaly Graphite, at the fort, in bowlders of white feldspar, disseminated in small crusts or scales. (*Sil.* 8.74.)

GASPE DISTRICT.

Carnelian, 450 m. below Quebec, in rolled masses, white, red, yellow, brown; color uniform or in clouds; transparency and lustre excellent. (*Citrine, Yellow Quartz*, mentioned under Missouri as being found along the banks of the Mississippi, is undoubtedly the same mineral.)

Fortification Agate, in pebbles on the sea shore. (*Sil.* 8.64.)

LA CHINE. SEE MONTREAL.

LA PRAIRIE.

Common Augite, in the trap around this village, in acicular crystals. (Sil. 8.70.)

MALBAY.

Hornblende, and

Garnet, in granite along the eastern shore of the bay. (Sil. 5.215.) Towards Cape Eagle the garnets are so abundant as to form the greater part of the rock for several hundred yards. They are obscurely crystallized or massive, sometimes 8 inches in diameter, in a coarse, black, mica slate. (Sil. 5. 217.)

Calcareous Spar, a transverse vein in gneiss, mottled, white, green, and red, 18 inches thick, and intersected obliquely by a vein of white quartz 6 inches thick, at the *Riviere des Troux Saumons*, 9 m. below Malbay. (Sil. 5.218.)

Schorl. (Sil. 8.61.)

Precious Garnets, 90 m. below Quebec, where they form rock masses, in closely aggregated crystals, sometimes 8 inches in diameter. (Sil. 8.62.)

MONTMORENCY FALLS.

Yellow Sulphuret of Zinc, in imbedded crystalline masses, and in nodules, each weighing some ounces, in the *Shell Limestone* of the Falls, beautiful specimens, coated with white quartz, about 7 m. below Quebec. (Sil. 8.76.)

Ammonite, a small kind occurs here, deeply striated, and invested with nacre, or spathose substance, (Sil. 8.84.)

MONTREAL.

Fetid Transition Limestone, near, compact in horizontal strata, and contains organic remains; it is black and employed as a building stone, or burnt to lime.

Augite, imbedded in a hornblende rock, which forms the summit of a mountain near; the crystals are sometimes greenish black eight sided prisms, about half an inch long.

Hornblende, on the summit of a mountain near, in large masses, either pure, or forming an aggregate with quartz; the base of the mountain is limestone. (C.)

Epidote, in trap, in druses of acicular crystals. It is of universal occurrence in the gneiss and granite of Canada. (Sil. 8.62.)

Zeolite, white, fibrous, in the druses of the trap mountain of

of Montreal, associated with tables of *Feldspar*,
Sulphuret of Iron, and
Chabazite. (Sil. 8.65.)

Basaltic Hornblende, in Montreal mountain, in a compact trap;
the terminations project and display the four trapezoidal
faces, corresponding to four of the lateral planes, as is
common in this mineral. (Sil. 8. 68.)

Common Augite, imbedded in the trap of Montreal mountain.
Cæcolite, on the shores of the St. Lawrence, green, in round-
ed grains, in white,
Calcareous Spar, rolled.

Marble occurs in the neighborhood of Berthier, 40 m. N. E.
from Montreal, white, highly crystalline, and often contains
Sulphuret of Lead, minutely disseminated.

Fibrous Arragonite at La Chine, 8 m. W. from Montreal, in
veins one inch thick composed of two tables, one of which
is white and slightly translucent, the other is white, hyaline,
with high translucency, in

Compact Secondary Limestone, which forms a horizontal gir-
dle around the trap mountain of Montreal, its upper strata
brown and crystalline, but black, compact, and slaty be-
low, containing organic remains in immense quantities.
(Sil. 8.70.)

Fluate of Lime, in the secondary limestone filling fissures in
the calcareo-quartzose veins common at the foot of the
mountain; purple and massive. (Sil. 8.72.)

Magnetic Oxide of Iron, in the trap of Montreal mountain, in
small quantity. (Sil. 8.75.)

Yellow Blende, fine specimens coated with white quartz, in
imbedded crystalline masses, and in nodules, each weigh-
ing some ounces, in limestone. (Sil. 8.76.)

QUEBEC.

Rock Crystal, in the fissures and cavities of the *Limestone*, in
extraordinary quantities, and of great brilliance. They are
generally superimposed laterally, or terminally, seldom im-
bedded, usually in perfect prisms, often flattened, and fre-
quently the prism disappears, leaving a dodecahedron, col-
orless or dark smoke, brown, and in rare instances contain
a drop of pale, bituminous liquid. (Sil. 8.63.)

Coal, in minute seams, jet black, in the cliffs of the Grand
Battery, in black transition limestone. (Sil. 8.74.)

UPPER CANADA.

ST. PAUL'S BAY.

Brown Coccolite is found at the Bay of St. Paul, below Quebec. (C.)

Fluate of Lime, 60 m. below Quebec, in the ravine of the stream which turns the seignioral mill, disseminated plentifully in green crystalline masses, in

White Marble, which is a thin layer in

Compact Blue Limestone, alternating with gneiss. (Sil. 8.71.)

Magnetic Iron Ore. Granular masses occur in the gneiss of this Bay. (Sil. 8.75.)

Bog Iron Ore. (Sil. 8.76.)

THREE RIVERS.

Meadow Iron Ore, strewn on the ground in marshes and woods.

Bog Iron Ore. (Sil. 8.76.)

UPPER CANADA.

CROW LAKE.

Common Actynolite, 30 m. N. from Lake Ontario, in the township of Marmora. (Sil. 8.68.)

Variogated Copper Pyrites, in abundance among the beds of *Magnetic Iron Ore*, in the township of Marmora. The pyrites has a purple tarnish. (Sil. 8.76.) The magnetic iron ore is fine granular, sometimes in groups of large octahedrons, 30 m. N. from Lake Ontario. (Sil. 8.75.)

DRUMMOND'S ISLAND.

Ammonite; casts are plentiful at the E. end of the Island. (Sil. 8.84.)

EAST LAKE.

Jasper, in the East Lake, on the height of land between Lake Superior and Hudson's Bay, about 70 m. from the Grand Portage of Lake Superior, considerable deposits in trap, marbled in a beautiful manner with green and red. (Sil. 8.64.)

Foliated Galena, in the limestone of the river Ouse, of the N. shore of Lake Erie. (*Sil.* 8.76.)

ENCAMPMENT DOUCE. See LAKE HURON.

FORT WELLINGTON.

Anthophyllite, well characterized in a large rolled aggregate of *Crystallized Quartz*.

Calcareous Spar, and *Apatite*. (*Sil.* 8.69.)

Coccolite. (*Sil.* 8.70.)

Apatite, in a rolled aggregate of quartz, anthophyllite, and calcareous spar, in 6 sided prisms, from $\frac{1}{4}$ to $\frac{1}{2}$ of an inch in diameter, usually short, confusedly aggregated. (*Sil.* 8.71.)

Sulphuret of Lead, foliated, in large rolled lumps in the alluvion or diluvion of Fort Wellington. (*Sil.* 8.76.)

Ammonite, very abundant in the brown limestone near the Fort, and at the head of Lake St. Francis.

GRAND CALUMET. See OTTAWA RIVER.

GUN FLINT LAKE.

Jasper, red with rusty brown spots, on the N. shore, in trap, in considerable quantities, about 70 m. from the Grand Portage of Lake Superior, towards Hudson's Bay. (*Sil.* 8.64.)

Glassy Feldspar, in greenstone porphyry in 6 sided prisms; also, equiangular, sometimes $1\frac{1}{2}$ inches long and 1 inch diameter. (*Sil.* 8.65.)

HAWKSBURY. See OTTAWA RIVER.

HUDSON'S BAY.

Selenite is found abundantly in large, transparent masses in the *Limestone* of this Bay, which is horizontal. (*Sil.* 8.71.)

KINGSTON.

Compact Limestone, brown and blue, without shells, and *Tremolite*, abounding in the above limestone. (*Sil.* 3.266.)

Labrador Feldspar, solitary masses may be found on the N. shore of Lake Ontario. (*Sil.* 8.67.)

Sulphate of Strontian, foliated in rounded, imbedded masses,

from 1 to 6 miles (inches?) in diameter, in horizontal azoophitic limestone, 2 m. N. E. from Kingston, on the shore of Lake Ontario. It is white, faintly translucent, and in large crystalline facets, very abundant. (*Sil.* 8.72.) Fibrous sulphate of strontian, of a white, or sky blue color is imbedded in the limestone, in balls from 1 to 12 inches in diameter, solitarily, or forming a confused aggregate with white calcareous spar, and

Sulphuret of Iron, in cubes. (*Sil.* 8.73.)

Graphite, granular, in considerable quantities, on a creek, 3 m. E. of Kingston. (*Sil.* 8.74.)

Foliated Galena, abundant in the gneiss and granite in the rear of Kingston. (*Sil.* 8.76.)

LACROIX RIVER.

Staurotide, in Lacroix River, (or Naymaycan) the outlet of Lake Lacroix, which is N. W. of the Grand Portage, on Lake Superior, in gneiss, in the second Portage from the Lake, frequently 1 inch long and $\frac{2}{3}$ of an inch broad; abundant, and in excellent condition. (*Sil.* 8.63.)

LAKE CHAT. SEE OTTAWA RIVER.

LAKE ERIE.

Fibrous Gypsum, in limestone, on the River Ouse, which enters Lake Erie on the N. shore. (*Sil.* 8.71.)

Bitumen, impregnating the

Fetid Brown Limestone, on the S. shore of Lake Erie. (*Sil.* 8.74.)

LAKE HURON.

Hornblende, nearly pure in the greenstone formation of an island in the N. W. of Lake Huron.

Ligneous Asbestos, in thin veins traversing the foregoing rock for some yards.

Quartz, in the above rock, in vertical veins 6 inches in diameter, containing cavities lined with hexahedral prisms of great size.

Yellow Quartz Crystals, in concave portions of the above rock, in round congeries of a brilliant honey yellow.

Sulphuret of Lead, in a thready vein 3 yards long dipping obliquely into the rock.

Calcareous Spar, in the same rock.

Pyritous Copper, in the bluff at the lower end of the Narrows, in a seam of quartz in greenstone, massive and in octahedral crystals. (*Sil.* 3.260.)

Red Quartzose Prisms, brilliant and well formed in the fissures of a quartz rock near the rapids formed by two islets.

Jasper, red and brown, in nodules, mingled with round pebbles of white and black quartz, forming a conglomerate, in blocks, at Encampment Douce, and along the N. W. portion of Lake Huron.

Hematite, black and brown in small portions, and

Quartz Crystallized, in the rock of Encampment Douce. (*Sil.* 3.262.)

Schorl, N. E. coast of Lake Huron, in two distant places. (*Sil.* 8.61.)

Epidote, in the rolled amygdaloids frequent in this lake, stellated, radiated, and acicular. It is of universal occurrence in the gneiss and granite of Canada. (*Sil.* 8.62.)

Precious Garnet, in gneiss and mica slate, very abundant. (*Sil.* 8.62.)

Rock Crystals, in transition greenstone. (*Sil.* 8.63.)

Fortification Agate, imbedded in rolled masses of amygdaloid.

Striped Jasper, N. W. of Lake Huron, as nodules in transition quartz rocks, grain fine, color good, red, brown, yellow, green, white, black. Common jasper is present with the striped variety. (*Sil.* 8.64.)

Aventurine Feldspar, N. E. shore, 20 m. E. of French River. It is a pale flesh red feldspar, largely crystallized, and forming a part of a vein of porphyritic granite of great size, traversing gneiss. It is almost every where full of brilliant golden points, which sparkle with increased force, if held in particular lights.

Glassy Feldspar, in greenstone porphyry, in splendent, transparent, imbedded, 4 sided prisms, of a pale wine yellow color. (*Sil.* 8.65.)

Labrador Feldspar, on the N. E. coast of the lake, 60 m. W. from Penetanguishine, a British naval station, and 90 m. E. from the French River, in rock masses, constituting the islands and main of this intricate country. It has a remarkable lustre and transparency, the feldspar constituting nearly the whole mass; but it always contains slender

strings of greenish hornblende, without any particular direction, and some small but brilliant

Garnets. A vein of massive garnet was observed 1 foot thick, in an isle 3 m. from the Labrador feldspar. This feldspar is of a greenish, bluish, and hyaline grey, in facets usually about $\frac{1}{2}$ an inch in diameter, but often much larger. The iridescence is purple, green, and rarely flame colored, and is only observed in a few solitary spots until dipped in water, or polished, when it overspreads nearly the whole mass. Boulders of Labrador feldspar are scattered over an extensive range of country. (*Sil.* 8.67.)

Mica, in plates 1 foot in diameter on the N. E. shore, 50 m. E. of French River.

Chlorite Earth, coarse, earthy, soft, fissile, slightly slaty, and contains

Octahedral Crystals of Iron Ore, and

Sulphuret of Iron, in cubes, near Sagamuc River. Chlorite earth is found in gneiss 3 m. N. from the Giant's Tomb, on a barren islet.

Common Serpentine, rolled.

Ligneous Asbestos, N. W. coast of the Lake, in veins traversing transition greenstone.

Basaltic Hornblende, in a compact trap. (*Sil.* 8.68.)

Fibrous Gypsum, near Cabot's Head, in Lake Huron.

Selenite, on the Great Manitouline, in this Lake, in nodular geodes, whose sides are brown limestone, wholly occupied by

Favosite. The same geode sometimes contains radiated

Celestine. (*Sil.* 8.71.)

Bitumen impregnating the

Fetid Limestone, N. W. of Lake Huron. (*Sil.* 8.74.)

Copper Pyrites, disseminated in gneiss on the N. E. coast, and imbedded in a vein of quartz traversing greenstone at the foot of the narrows of Pelletau in the N. W. of this lake. It occurs in amorphous masses in various parts of Lake Huron. (*Sil.* 8.75.)

Foliated Galena, imbedded in the transition quartz of La Cloche, on the N. shore of Lake Huron, in thready veins in the transition greenstone of the N. W. main of this lake. (*Sil.* 8.76.)

Ammonite, very abundant, on the isles of the N. shore. (*Sil.* 8.84.)

LAKE ONTARIO.

Milky Quartz, in the outlet of this lake 4 m. below Kingston, in large strata, subordinate and conformable to gneiss, and in the calcareous pudding-stone covering it. (*Sil.* 8.63.)

Marble, in bowlders along the N. shore of the lake, derived perhaps from Marmora, up the river Trent, where this rock exists, white, highly crystalline, and often contains

Sulphuret of Lead, minutely disseminated. (*Sil.* 8.70.)

Muriate of Soda. Springs of this salt have been discovered along the whole north shore of Lake Ontario. (*Sil.* 8.73.)

Ammonite, abundant. (*Sil.* 8.84.)

LAKE SIMCOE.

Common Serpentine. (*Sil.* 8.68.)

Fibrous Sulphate of Strontian, in druses, in the brown fine-grained limestone of the Narrows of Lake Simcoe, towards the River Severn, which discharges into Lake Huron, on white calcareous spar and *Quartz Crystals*. (*Sil.* 8.73.)

Ammonite, abundant. (*Sil.* 8.84.)

LAKE SUPERIOR.

Precious Garnet, in gneiss and mica slate, rare in this lake and in the countries immediately north. (*Sil.* 8.62.)

Amethyst, on the N. shore of this lake, and in the adjacent islands in six sided prisms of good color, in druses, and geodes of amygdaloid.

Rock Crystal, in amygdaloid, &c.

Radiated Quartz, at Point Marmoaze, in amygdaloid, nearly filling a geode with imperfect crystals, radiating in a stellar form from three centres. (*Sil.* 8.63.)

Chalcedony, near Gravel Point, in clay porphyry, in veins. At Points Gargantua and Marmoaze, and in the district of Mammelles, in this lake, as botryoidal coatings to druses in amygdaloid.

Carnelian, in the amygdaloid, and its accompanying conglomerate. Its usual color is delicate red.

Fortification Agate, in the porphyry, and plentiful, large and fine, in the amygdaloid.

Pitchstone, in Michipicoton Bay, in large rolled masses, rendered porphyritic in parts by *Glassy Feldspar*. It is jet black. The fixed rock of the locality is greenstone; but

those of the opposite (southern) shore of the Bay are amygdaloid and sandstone.

Fibrous Prehnite, at Point Marmoaze, as small mammillary coatings on druses, and in amorphous masses. Also in the Pay Plat of this lake, of a fine color.

Radiated Zeolite, at Gargantua, brownish red, imbedded in trap, without the intervention of any other mineral; and bright flesh red in masses of *Calcareous Spar*; the radiating fibres passing at the circumference insensibly into calcareous spar. It is very handsome, and is almost identical with the Italian zeolite. Also at Point Marmoaze in amygdaloid, colors brownish red, bright flesh red, and green. (*Sil.* 8.64.)

Stilbite, in the amygdaloid of the north shore of this lake. It is red, indistinctly crystallized, incrusting nodules of calcareous spar and lining druses. It occurs likewise in the conglomerate, interstratified with the amygdaloid. (*Sil.* 8.65.)

Glassy Feldspar, in pitchstone porphyry, in splendent, transparent, imbedded 4 sided prisms, of a pale wine yellow color. (*Sil.* 8.65.)

Green Earth, in amygdaloid, in coatings, and disseminated. (*Sil.* 8.68.)

Calcareous Spar, abundant, in the sienite and greenstone.

Satin Spar, in the amygdaloid at Point Marmoaze, in veins from $\frac{1}{4}$ to 1 inch thick, vertical, running obliquely to the stratification, several in company, nearly parallel, and ramifying rectangularly. These veins consist of two tables, separated by a rift in the middle, white, occasionally with a slight tinge of red. Also in the Pay Plat, and in the trap of the Outard Cliff overlooking the lake of that name, N. of Lake Superior. (*Sil.* 8.70.)

Fluate of Lime, plentiful in the sienite of the north mainland, opposite Peck Island, and likewise 6 m. E. of the Written Rocks, filling fissures, purple, translucent, crystalline, and separated from the sides of the cleft by a film of white, calcareous spar. Also in amygdaloidal trap, on calcareous spar, 3 m. E. of Point Gargantua, purple and green. It is abundant, lining fissures, together with the

Sulphate of Barytes, which appears to be the grey, straight, lamellar sulphate, in the porphyry of the large and lofty island, 8 m. E. of Gravelly Point, and 63 m. E. from Fort

William. The fluor is here green, and highly translucent, sometimes in handsome groups of well defined octahedral crystals. (*Sil.* 8.72.)

Copper Pyrites is not uncommon, (but always in small quantity,) in the druses of prehnite, zeolite, and calcareous spar, so common in the amygdaloid of the north shore. At Point Perquaquia, on the N. side of Michipicoton Bay, it exists in a vein of quartz in greenstone. (*Sil.* 8.75.)

LAKE OF THE THOUSAND ISLANDS.

Schorl, in this lake, below Kingston. (*Sil.* 8.61.)

LAKE OF THE WOODS.

Chlorite Earth, a vein in greenstone, from 9 to 12 inches thick, containing

Octahedral Iron, and

Sulphuret of Iron, in cubes. (*Sil.* 8.68.)

MARMORA. See CROW LAKE.

MICHILIMACKINAC.

Compact Limestone, in the N. W. half of the long side of the Island, containing a few blue and white striped **Flints**, which are broken, small and angular. (*Sil.* 3.268.)

NIAGARA FALLS.

Fibrous Sulphate of Strontian, drusy, in the limestone of the chasm of the Falls of Niagara. (*Sil.* 8.73.)

Sulphur, in yellow pulverulent efflorescences, and in tufts of minute capillary crystals, coats the moist, calcareous shale, at the foot of the horse-shoe fall of Niagara, and within the curtain of falling water. (*Sil.* 8.74.)

Foliated Galena occurs sparingly in the limestone of the Falls. (*Sil.* 8.76.)

Yellow Blende, in imbedded, crystalline masses, in the limestone of the Falls, beautiful, coated with white quartz. (*Sil.* 8.76.)

OTTAWA RIVER.

Azomite is said to have been found high up this river, or Iroquois. (*C.*) This locality is at Hawksbury, on this river, 60 m. N. W. from Montreal, lining a drusy cavity, in a

- rolled primitive mass, in finely characterized, though rather small, rhomboidal, opaque, 4 sided tables. (*Sil.* 8.62.)
- Mica*, at the Portage of the Grand Calumet, 200 m. from Montreal, in what is supposed to be *Dolomite*, subordinate to *Primitive White Marble*, in 6 sided tables a foot in diameter. (*Sil.* 8.67.)
- Common Serpentine*, at Greenville, on the Ottawa, 65 m. N. W. from Montreal, and at Gananoque, 20 m. below Kingston, in large and small irregular masses, in a calcareous cement. (*Sil.* 8.68.)
- Sahlite*, at Hawksbury, a very large rolled mass intermixed with quartz, and containing imbedded
- Silico-Calcareous Oxide of Titanium*.
- Calcareous Spar* is found at the Grand Calumet, in
- Primitive Marble*. The calcareous spar occurs in sky blue, transparent masses, with striæ indicative of a cleavage parallel to the diagonal of its rhomb.
- Marble* occurs on the W. branch of the Ottawa, leading towards Lake Nipissing 450 m. N. W. from Montreal. Also at Lake Chat on the Ottawa, and the parts of this river about the Portages de la Montagne and Grand Calumet, in all these instances subordinate to gneiss. It is every where white, highly crystalline, and often contains
- Sulphuret of Lead*, minutely disseminated. (*Sil.* 8.70.)
- Sulphate of Strontian*, in horizontal limestone, on the right bank of the Ottawa, near the head of the Long Sault, 60 m. from Montreal, in small, oblique, 4 sided prisms, superimposed on white calcareous spar, sky blue, transparent, and with broken acuminations. (*Sil.* 8.72.)
- Scaly Graphite*, in the township of Hawksbury, in large bowlders of translucent quartz, disseminated in small crusts or scales. (*Sil.* 8.74.)
- Magnetic Oxide of Iron* abounds near the Falls of the Chaudiere. (*Sil.* 8.75.)
- Specular Iron Ore*, at Hawksbury, coating granitic bowlders, in amorphous masses.
- Silico-Calcareous Oxide of Titanium*, in a rolled aggregate, many tons in weight, of white crystalline quartz and sahlite, imbedded in the quartz, in oblique tetrahedral prisms. (*Sil.* 8.76.)

POINT MARMOAZE. See LAKE SUPERIOR.

PRESCOT.

Apatite, on the St. Lawrence, in light blue, 6 sided prisms, sometimes truncated on the terminal edges, in white limestone. (C.)

RAINY LAKE.

Beryl, 230 m. N. from Lake Superior, imbedded in a porphyritic granite, in which a brown feldspar is predominant, the mica being black and scanty, on the E. side of the lake. (Sil. 8.61.)

Staurolite, in gneiss, in extremely small, very oblique 4 sided, and in 6 sided prisms, and in twin crystals, abundant. (Sil. 8.62.)

Chlorite Earth, slightly slaty, containing *Octahedral Crystals of Iron Ore*, and *Sulphuret of Iron*, in cubes. (Sil. 8.68.)

TEO. See THOUSAND ISLANDS.

THOUSAND ISLANDS.

Schorl, in the Island of Teo, in the St. Lawrence, in very large, imperfect crystals in granite. (C.) Schorl abounds in the puddingstone of these Islands, interposed between gneiss and the horizontal limestone. The most remarkable locality is on Yeo's Island, near the upper end of Tar Island, and on the S. side of the English Channel. On the S. W. portion of Yeo Island, on the face of a shelving mound of bleached, close grained granite, is situated the bed of schorl, 12 paces in diameter, and nearly circular. The schorl is intermixed in shapeless masses, of from 1 to 3 feet in diameter, with white, translucent quartz, opaque, cream colored feldspar, and greenish yellow mica. Schorl is met with in other parts of the island, in 6 sided prisms, of 4 and 8 inches in length, imbedded in veins of quartz and feldspar, coarsely mixed in gneiss. (Sil. 8.62.)

YEO. See THOUSAND ISLANDS.

YONGE.

Sulphuret of Iron, a vein $1\frac{1}{2}$ foot thick, in primitive quartz, at the bottom of a round cavity about 12 feet in diameter, in a mound of quartz in the woods $\frac{1}{2}$ a m. N. from the high road from Montreal to Kingston, and 10 m. above Brock-

ville. The sides of the cavity are studded with iron pyrites, and profusely invested by a yellow and white efflorescence, and by acicular crystals, of an aluminous salt. *Octahedral Crystals* of pyrites nearly 2 inches in diameter have been obtained here. (*Sil.* 8.75.)

YORK.

Glassy Actynolite, in a rolled aggregate of *Petalite*, quartz, *Tremolite*, and calcareous spar. The actynolite forms a very handsome group of crystals, of a fine green color, cemented together by lamellar carbonate of lime. (*Sil.* 8.68.)

Glassy Tremolite, in white, glassy, short, and indistinct, diverging fibres, dispersed among the petalite, minutely, and in large masses.

Petalite. This rare mineral, not hitherto found on this continent, occurs on the N. shore of Lake Ontario, on the beach in front of York, a few yards to the right of the wharf, used by the steam boat Frontenac. It is a rolled mass weighing about a ton, and has much glassy tremolite interspersed, and two large veins of irregular shape, of an aggregate of actynolite and calcareous spar. Close to this boulder lies one still larger of the

Ophicalce family from Grenville, or Gananoque, and strewn around are some

Labrador Feldspar.

Crystalline Quartz, in nodules, in the clayey alluvion.

Clay, grey and blue, now and then alternating with horizontal bands of *Ferruginous Sand*, constituting the "Burlington Heights" and the very picturesque cliffs of the "York Highlands," 300 feet high. (*Sil.* 8.69.)

 LABRADOR.

Labrador Feldspar. Labrador stone was discovered by the Moravians in the Island of St. Paul, on the coast of Labrador, where it exists in considerable quantities. Its principal color is smoke grey, which passes into ash and yellow-

ish grey. It exhibits, when held in a determinate position, a great variety of colors, as blue, green, yellow, red, and brown.

Labrador Hornblende is found in the island of St. Paul, on the coast of Labrador; it occurs massive, disseminated and in rolled pieces, in large, coarse, small, and sometimes thin, lamellar, distinct concretions. (*Jameson's Mineralogy*, 1804.) It commonly presents, in certain lights, the lustre of polished copper.

Opalescent Feldspar, or Labrador feldspar, was first found on the Island of St. Paul, in rounded fragments of sienite, with hypersthene and magnetic iron.

Hypersthene was first observed here, and hence received the name of Labrador hornblende. It occurs as an ingredient of a rock, in which it is associated with opalescent feldspar, and sometimes with hornblende and magnetic iron. (C.)

Latrobite, on Amitock Island, near the coast of Labrador. It occurs massive and crystallized, of a pale pink red color, accompanied by mica, and carbonate of lime, and imbedded in a greyish colored substance. (*Phillips' Mineralogy*, 3d Ed. 1823.)

Green Feldspar, or Amazon stone, same place. (*Latrobe*.)

Smoky Quartz.

Cryolite, snow white, and ferruginous, imbedded in gneiss.

Avanturine Feldspar. This curious property, or spangling appearance, purple or brassy, is found in some of the opalescent pebbles.

Hornblende, associated with, and resembling hypersthene.

Smaragdite, abounding in quartz.

Magnetic Oxide of Iron.

Titaniferous Oxide of Iron.

Octahedrite, in a talcose slate. (*T. Nuttall*.)

AN

APPENDIX,

CONTAINING LOCALITIES, WHICH WERE RECEIVED TOO LATE TO BE INSERTED IN THEIR PROPER PLACES. THEY ARE ARRANGED IN THE SAME ORDER, AS IN THE BODY OF THE WORK.

MAINE.

BATH.

Quartz, finely crystallized, and
Magnetic Oxide of Iron, on Arousie island. (*Prof. Cleaveland.*)

BRUNSWICK.

Silico-Calcareous Oxide of Titanium, in an aggregate of quartz and hornblende. (*Prof. Cleaveland.*)
Fibrolite, (or Cummingtonite,) in brittle, radiating fibres in gneiss, at Basin Falls, near the locality of oxide of molybdena. (*T. Nuttall.*)

COLUMBIA.

Amianthus. (*Prof. Cleaveland.*)

EXETER.

Sulphuret of Lead, with quartz. (*Prof. Cleaveland.*)

LETTER E.

Macie, in argillite.

Sulphate of Iron, in thick crusts. (*Prof. Cleaveland.*)

PARIS.

Phosphate of Lime, associated with quartz.

Smoky Quartz, crystals occasionally containing drops of moveable fluid.

Rose Quartz, extremely beautiful.

Pseudomorphous Steatite, supposed to be pinite, presenting the form of the tourmaline.

Basalt, in veins of columnar masses from 1 to 2 feet wide,

traversing many of the granite ledges in this vicinity in a northerly and southerly direction.

Oxide of Tungsten, forming yellow stains over other minerals.

Ferruginous Tungsten. A very fine and large crystal was found by Dr. Holmes. (*T. Nuttall*.)

Feldspar, passing into

Adularia, of a blueish color.

Phosphate of Iron, in a swamp adhering to the surfaces of the rock, in mammillary formations, and also loose in the soil, in small, globular masses, that break easily, and exhibit a fine blue color.

Carbonate of Lime, in strata of gneiss, accompanied with

Actynolite, and

Hornblende.

Quartz Crystallized, abundant. Transparent quartz, imbedded in a beautiful white feldspar, forming superb specimens of *Graphic Granite*.

Chalcedony, of a milky appearance, and adhering to the surface of quartz.

Hornstone, fine specimens imbedded in the feldspar.

Talc, mixed with quartz, white, and also fine apple green color. (*Oxford Observer*, Sept. 2, 1824.)

RUMFORD.

Crystallized Mica, in uncommonly regular, 6 sided tables. (*Prof. Cleaveland*.)

NEW HAMPSHIRE.

LITTLETON.

Variegated Marble, and

Oxide of Manganese, have recently been discovered.

Sulphur, in springs. (*Sil.* 8.179.)

MOUNT WASHINGTON.

Cyanite, perfectly white or colorless, and glassy.

Staurolite, in small, single crystals, accompanying the cyanite, and resembling that of St. Gothard, imbedded in mica slate. (*T. Nuttall*.)

VERMONT.

BRATTLEBOROUGH.

Smoky Quartz ? Amorphous. (Sil. 6. 213.)

Schorl, (mentioned in Cleaveland as occurring in Dummerston,) is found, near the centre of the town, in mica slate or hornblende slate ; also near the N. line of the town, in common white quartz, quite beautiful and abundant. (Sil. 6.220.)

Red Oxide of Titanium, in quartz, mica slate, and tremolite. This mineral may be found in almost any spot between Conway and Brattleborough, a distance of 30 m. on a strip several miles wide.

Silico Calcareous Oxide of Titanium, near the N. line of the town, in a boulder of granite, which has flesh colored feldspar. (Sil. 6.236.)

GUILFORD.

Chlorite Slate occurs in beds in clay slate. (Sil. 6.28.)

PLYMOUTH.

Carbonate of Iron, near the m. h. in a vein 2 or 3 feet wide. (Sil. 9.22.)

POWNA.

Granular Limestone. (Sil. 8.14.)

SHOREHAM.

Magnesian Carbonate of Lime, crystallized, transparent, and beautiful. (T. Nuttall.)

WHITINGHAM.

Chlorite Slate, nearly pure chlorite, distinctly stratified. (Sil. 6.28.)

MASSACHUSETTS.

ABINGTON.

Smoky Quartz, in good crystals, found in digging a well. (J. Porter.)

ASHFIELD.

Scapolite, discovered by Morris Dwight of Williamsburg. (J. Porter.)

BECKET.

Granular Limestone. (Sil. & Ls.)

BERLIN.

Bog Iron Ore, in a meadow, in great abundance. (C. T. Jackson.)

BLANDFORD.

Anthophyllite, both massive and in long acicular prisms, which are generally disposed in a radiating form; its color hair brown of various shades, constituting the greater part of a green talcose rock, having a slaty structure, with veins of serpentine of a dark color, running through it in various directions. (J. W. W. 2.395.)

BOLTON.

The substance mentioned under Bolton, page 37, as resembling serpentine, and supposed to be a variety of brucite, if not the

Pyralolite, will probably prove a new substance, the rhomboidal prisms which its cleavage presents being of different angles with the brucite.

Spinelle, dark green, or blackish, and greyish blue, crystallized and amorphous.

Orthite? in minute crystals, with the Nuttallite and scapolite. *Petalite*, associated with the Nuttallite, &c. We have obtained 3 to 4 per cent of lithia from this mineral.

Parganite, disseminated in the limestone.

Brown Hornblende, associated with the spinelle, and occurring in almost all the localities of spinelle hitherto discovered in the United States. (T. Nuttall.)

Rhomb Spar, in limestone.

Pinite, in granite. (C. T. Jackson.)

BOXBOROUGH.

Spinelle Ruby was discovered for the first time in New England, in Sept. 1824, in the

Foliated Limestone, in this town, which is quarried for lime.

The colors of the spinelle then obtained almost exactly resembled that of Oker in Sweden, being of a bluish grey, sometimes inclining to rose red, and when small, highly translucent; also of a dark green, approaching to black, and sometimes inclining to blue; one specimen was found of a red approaching carmine, and also white.

Lilac Scapolite. Imbedded in the quartz scapolite of this place were found rhomboidal specks and rhomboidal crys-

tals, of a blackish brown, and sometimes greenish brown substance, with a resinous lustre and conchoidal fracture, which to all appearance resembled

Gadolinite ? or *orthite*. Unlike *gadolinite*, it proved very fusible with intumescence, and may more probably be

Orthite. *Brown Hornblende*, associated with the *spinelle*, &c. *Garnet*, discovered at the same time at this locality possesses an uncommon beauty and brilliancy, and is in fact a

Cinnamon Stone, or *Almandine*, accompanied by that variety of amphibole which has been called

Pargasite. (*T. Nuttall*.)

Calcareous Spar, yellow, in the granular limestone, about 8 m. E. N. E. from Lancaster, and 5 m. N. E. from the lime rocks in Bolton.

Phosphate of Lime, *Apatite*, in hexahedral prisms, sometimes running through crystals of *scapolite* at right angles. The *scapolite* occurs massive and crystallized, sometimes purple, in handsome specimens, and much more abundant than at Bolton.

Sulphuret of Iron, in limestone, associated with *spinelle*.

Sulphuret of Molybdena ? (*C. T. Jackson*.)

Brucite, lemon yellow and orange yellow, with *spinelle* and *hornblende*, found by *C. T. Jackson*.

BOYLSTON.

Crystallized Quartz, in flinty slate ; the crystals are grouped very handsomely in the crevices of the rocks.

Chlorite, is frequently found in the interstices of the quartz.

Sulphuret of Iron.

Sulphate of Iron, in a rock of pyritous slate, by the road side, covering the rock in dry weather with minute crystals.

Ochrey Red Oxide of Iron, mixed with clay, deposited by the springs in the meadows, 4 or 5 inches in thickness in some places. (*C. T. Jackson*.)

BREED'S HILL.

Epidote, in crystals of considerable size in rolled masses of greenstone, with white quartz and some *calcareous spar*. (*J. W. W.* 2. 280.)

BRIGHTON.

Adularia, in fine crystals, but scarce. (*T. Nuttall*.)

BUCKLAND.

Arenaceous Epidote, in *hornblende* and greenstone slate. (*Sil.* 6. 223.)

CHARLESTOWN.

Compact Feldspar, of a greenish color, resembling in some parts of the bed, some varieties of limestone, constituting the lowest rock on the S. E. side of Prospect Hill, in an extensive bed, and may be traced in various parts of the hill, in a direction from S. E. to N. W. It has an imperfect slaty structure, and passes into clay slate in the N. W. extremity. (*J. W. W.* 2. 280.)

Arragonite, in acicular crystals in the sienite. (*T. Nuttall.*)

CHESTER.

Heulandite, associated with the stilbite, and chabasie, rather rare. Distinguishable by its superior pearly lustre. (*T. Nuttall.*)

CHESTERFIELD.

Scapolite, (*Sil.* 7.253.) published as *Tremolite* in *Sil.* 6.248.

Cyanite, a remarkable variety, very dark colored.

Garnet, about a m. N. E. of the m. h. near the celebrated locality of cyanite, in blocks of reddish hornblende, in immense numbers, from the size of a shot to that of a small cannon ball.

Graphite, foliated. The graphite of Cummington, Worthington, and Chester is of this variety. (*J. Porter.*)

Purple Copper, in small quantities, in the same rock with the green feldspar. (*Sil.* 9.48.)

COHASSET.

Peat, abundant.

COLRAIN.

Siliceous Limestone, of a dull brown color. (*Sil.* 1.106.)

CONWAY.

Siliceous Limestone, of a dull brown color. (*Sil.* 1.106.)

Colophonite ? (*Sil.* 6.223.)

CUMMINGTON.

Rhomb Spar, in steatite well crystallized, and associated with green, foliated talc.

Yellow Ferruginous Quartz, crystallized and amorphous.

Cummingtonite is found abundantly in the W. part of the town.

Melanite. Zoisite.

Steatite. The Cummington soapstone quarry is lately found to be a few rods within the limits of Windsor.

Radiated Oxide of Manganese, in delicate filaments, united in

tufts, white, with a silken lustre, associated with the grey and black oxide. (*J. Porter.*)

Siliceous Oxide of Manganese. The locality of this mineral is half a m. W. of the congregational m. h., where it exists in immense quantity in boulders in the stone walls. (*Sil. 9.22.*)

Fibrolite, what has been called *Cumingtonite*. (*T. Nuttall.*)

DALTON.

Cacholong. *Siliceous Sinter*, in stalactical concretions.

Agates, very large, in masses of hornstone, and jaspery quartz, and jasper.

Opal, do. *Hyalite*, do. *Hornstone*, approaching chalcedony.

Schorl. *Epidote.* *Augite*, principally massive. *Hornblende.*

Serpentine, containing *Asbestos*, in the E. part of the town.

Carburet of Iron, and *Brown Oxide of Iron*, forming the cement of a breccia, the interstices lined with minute quartz crystals. *Bog Iron Ore.* (*Sil. 9.43.*)

DEERFIELD.

Siliceous Limestone, of a dull brown color. (*Sil. 1.106.*)

DUXBURY.

Marl, underlying *Peat*, both of which are abundant on the farm of Dr. Allyn. (*C. T. Jackson.*)

EGREMONT.

Granular Limestone. (*Sil. 8.14.*) *Clay Slate.* (*Sil. 8.19.*)

FITCHBURGH.

Limpid Quartz, elegant specimens, and

Yellow Quartz, which on its recent fracture, presents the

*Iris*ed Quartz, very beautiful; these occur in a vein nearly 8 feet wide, passing through mica slate, which forms an eminence, known by the name of "Pearl Hill," about 5 m. N. E. of the village. Specimens of some pounds may be obtained by blasting the rock.

Milky Quartz, and *Granular Quartz*, in mica slate.

Staurolite, in mica slate, in rhombic prisms.

Mica, in beds of granite, in mica slate, plates of more than a foot diameter may be easily obtained, very abundant.

Schorl, in mica slate, in acicular crystals, and

Rubellite, in granite, were discovered by H. Wilder. (Probably andalusite. *T. N.*)

Beryl, in granite, in crystals from $\frac{1}{4}$ an inch to 6 inches in di-

ameter, green and white ; some are nearly limpid, fine specimens.

Garnet, in the mica slate, very abundant.

Chlorite crystallized, in granite. All the above at Pearl Hill.

Sulphuret of Molybdena, in granite, in 6 sided prisms from $\frac{1}{2}$ an inch to an inch in diameter. (C. T. Jackson.)

GOSHEN.

Epidote, beautifully crystallized.

Sulphur, in the water of a well in the S. W. part of the town. (J. Porter.)

Spodumene, exists not merely in the locality, described in *Sil.* 6.226, & 7.30, as white augite, but in various parts of Goshen, especially in the northern part, scattered in great abundance, in bowlders over the surface. Its general color is brownish white, sometimes clove brown, yet not unfrequently it is beautifully tinged with green, and cannot be distinguished from the European specimens. (*Sil.* 9.20.)

Pyrophysalite, about 3 m. N. W. of the m. h., on what is called the Week's farm, in loose bowlders of granite ; in which are found promiscuously blended, the green and black tourmaline, indicolite, spodumene, green, rose, and silver colored mica, pyrophysalite, beryl, and foliated and granular Cleavelandite. Also in a huge vein of granite in mica slate.

White Talc, beautiful specimens, same place. (*Sil.* 9.21.)

Topaz ? This occurs in that rich repository of minerals, the Goshen granite, 3 m. N. W. of the m. h. associated with green tourmaline, Cleavelandite, spodumene, indicolite, rose mica, and pyrophysalite. (*Sil.* 9.180.)

Beryl, in rounded, bluish grey masses, and low 6 sided prisms. This ambiguous substance was at first sight, by myself, mistaken for pyrophysalite, but the comparative examination of that from Finbo in Sweden, proved the distinction of our mineral from it, as it neither phosphoresces nor intumesces, merely rounding at the edges in extreme heat, and turning instantly opaque and pearly. The specific gravity also 2.61, proves it at once to have no affinity with topaz. The same may be said also, probably of the topaz announced from this place, as it sometimes occurs almost transparent, and inclined to rose red ; the red emerald of Col. Gibbs. (T. Nuttall.) The writer found the specific gravity of a fragment of the above weighing 21

grains, which was transparent and very slightly tinged with red, of a lamellar structure to be 2.62, and one of 34 grains of a bluish grey color and opaque, to be about 2.61.

GREAT BARRINGTON.

Staurotide.

Garnets, in mica slate, so numerous, as to resemble at a little distance the most beautiful puddingstone. (*Sil.* 8.7.)

HARVARD.

Quartz, in veins, and frequently crystallized, in the clay slate. *Clay Slate*, not readily fissile, but yields easily to the chisel, and is extensively wrought for the supply of gravestones in the neighboring towns. (*C. T. Jackson.*)

HINGHAM.

Amethyst. Crystals are frequently found in alluvial soil, about 2 m. N. E. near the woollen Factory. Handsome specimens of crystallized amethystine quartz, were lately obtained from a drusy vein in sienitic granite, in excavating some earth and rocks in the village.

Peat, very abundant.

MINSDALE.

Granular Limestone, very coarse, and highly crystalline, containing plates of mica diffused through it. (*Sil.* 8.14.)

Sulphuretted Hydrogen issues from a spring, around which the earth is covered with

Sulphur, in dry weather. (*Sil.* 8.31.)

LANCASTER.

Fibrolite, well characterized, and abundant in mica slate. (*T. Nuttall.*) Found by Mr. T. C. Jackson, on George Hill.

Phosphate of Lime, on George Hill, in small hexahedral prisms, in a spodumene rock, of about 2 tons weight, about 3 m. from the Sterling locality, found by C. Stedman. Spodumene is found in small quantities in various parts of the town. *Andalusite* is found on George Hill, in transition mica slate. Green and purple *Pinite*; fine specimens were found on George Hill in granite, by C. Stedman.

Peat is found in the swamps and low lands, in the S. W. part of the town. (*C. T. Jackson.*)

LENOX.

Iron Ore, similar to that of Bennington, Vermont, in abundance. (*Sil.* 5.251.)

LEOMINSTER.

Crystallized Quartz, very fine specimens have been found in a brook, sometimes several inches in length, exhibiting both pyramids.

Schorl, in granite. (C. T. Jackson.)

MARSHFIELD.

Petrosilex, in rolled masses. (J. Porter.)

MEDFIELD.

Peat, very abundant.

MIDDLEFIELD.

Granular Limestone. (Sil. 8.13.)

Steatite, pseudomorphous, in the form of quartz crystals. (T. Nuttall.)

Cereolite, connected with serpentine. (Maj. DeLafield.) *Cereolite* is of a uniform wax yellow color, about the hardness and translucence of precious serpentine, but more conchoidal in its fracture. Before the blowpipe it becomes white, and fuses on the edges with difficulty into an opaque enamel.

MONSON.

Arenaceous Epidote, in hornblende and greenstone slate. (Sil. 6.223.)

NEW ASHFORD.

Granular Limestone, and

Marble, white, and beautiful dove colored. (Sil. 8.14.)

Clay Slate. (Sil. 8.19.)

Incrustations of Carbonate of Lime, between the layers of calcareous rock. (Sil. 8.34.)

NEW MARLBOROUGH.

Granular Limestone, from which is wrought a white

Marble. (Sil. 8.14.)

Stalactites, and stalagmites, in caverns which have several rooms. (Sil. 8.15.)

Red Oxide of Titanium.

Arenaceous Quartz, with dendritic impressions of manganese. (Sil. 9.43.)

PETERSBURG.

Chlorite, forming considerable hills. (Sil. 8.20.)

PITTSFIELD.

Marble. No marble is found, at least none is quarried in this town. The marble of Lanesborough has been worked ex-

tensively in this town, and has hence acquired the name of Pittsfield marble. (*Sil.* 8.14.)

Calcareous Spar, in lenticular crystals. *Quartz Crystals*.

Red Oxide of Titanium, abundant in the S. E. part of the town in *Green Quartz*. *Agate*. *Mica*, of different colors.

Schorl, in the S. E. part of the town, near Washington, in mica slate. *Augite*. *Talc*, of different colors.

Specular Iron, *Hematitic*, *Magnetic Sulphuret*, and the *Compact Brown Oxide of Iron*. The magnetic occurs in octahedrons in mica slate. *Manganese*, the compact brown oxide, in considerable masses. (*Sil.* 9.42.)

PLAINFIELD.

Clay Slate. (*Sil.* 8.19.)

Red Oxide of Titanium, well crystallized. (*Sil.* 9.55.)

Fetid Quartz. *Zoisite*. *Green Talc*, which is foliated.

Sulphur, pulverulent, in the Cumingtonite.

Radiated Oxide of Manganese, in delicate filaments united in tufts of a white color and silken lustre, associated with the grey and black oxide. (*J. Porter*.)

PLYMOUTH.

Red Jasper, on the beach in rolled pieces. (*C. T. Jackson*.)

RICHMOND.

Clay Slate. (*Sil.* 8.19.)

SAVOY.

Granular Limestone, in beds. (*Sil.* 8.13.)

Sulphuret of Iron, finely crystallized in quartz. (*Sil.* 9.55.)

SHEFFIELD.

Oxide of Manganese, announced in *Sil.* 4.189, has been searched for and not found. (*Sil.* 8.30.) The mica slate, 1 m. E. of the m. h. &c. is so filled with garnets as to resemble, at a little distance, the most beautiful puddingstone. (*Sil.* 8.7.)

SHELBURNE.

Arenaceous Epidote, in hornblende and greenstone slate. (*Sil.* 6.233.)

SHIRLEY.

Roof Slate, an extensive quarry of superior quality. (*C. T. Jackson*.)

SHUTESBURY.

Arenaceous Epidote, in hornblende and greenstone slate. (*Sil.* 6.223.)

SOUTHAMPTON.

Vitreous Black Oxide of Iron, investing carbonate of lead.
(*Sil.* 9.47.)

STAMFORD.

Granular Limestone. (*Sil.* 8.13.)

STERLING.

Andalusite, in scopiform clusters of crystals, often party-colored like macle, in transition mica slate. This mineral has been found red, in quartz, with *Pinite*, near Sterling.

Crystallized Chlorite, associated with

Red Oxide of Titanium, in long prisms.

Phosphate of Manganese ? with the spodumene. (*T. Nuttall.*)

Chlorite, earthy, in gneiss, at the iron mine.

Pyritous Copper, and carbonate of iron, which is very abundant, are found at the iron mine, S. W. from the m. h.

Arsenical Iron, near the spodumene rock.

Arsenical Sulphuret of Iron, and common pyrites.

Sulphuret of Lead, and

Argentiferous Sulphuret of Lead, at the mine, which was opened for silver about 70 years ago, and found unproductive. *Andalusite* was found on the road from Sterling to Boylston, in mica slate, taken from a well. The *Clay Slate*, containing the *Macle*, does not occur in place in Sterling, but in Lancaster, near the boundary line, on George Hill. (*C. T. Jackson.*) The macle occurs in what is denominated by European geologists transition clay slate, similar to that of Brittany in France, which contains the chialstolite, sometimes approaching to mica slate.

TAUNTON.

Pipe Clay.

WALPOLE.

Limestone, about 2 m. W. of the m. h. of a bluish grey color, and granular structure, stratified, and dipping N. W.

Peat, about 2 m. southerly of the m. h., E. of, and near the turnpike, very abundant, and of good quality.

WASHINGTON.

Granular Limestone. (*Sil.* 8.13.)

Buhrstone, on the W. side of the town, known by the name of the Pittsfield buhrstone. (*Sil.* 8.17.) See Pittsfield.

WHATELY.

Common Quartz, in seams and beds, in primitive greenstone.

Granular Epidote, in primitive greenstone. (*Sil.* 6. 34.)

RHODE ISLAND.

WILLIAMSBURG.

Sulphuret of Lead, in quartz, associated with
Pyritous Copper.

Serpentine, in the neighborhood of the above. (Sil. 9.166.)

Apatite, imbedded in a rock of gneiss, strongly resembling
beryl. (Sil. 9.174.)

WILLIAMSTOWN.

Sulphuret of Lead has been found on the E. side of Saddle
mountain.

Oxide of Manganese, E. side of Saddle mountain in mica
slate. (Sil. 8. 30.)

WINDSOR.

Granular Limestone. (Sil. 8. 13.)

Zoisite, superb specimens. (C. U. Shepard.)

Sulphuret of Iron, finely crystallized in quartz. (Sil. 9.55.)

WORCESTER.

Epidote, associated with idocrase, pyroxene, &c. (T. Nuttall.)

WORTHINGTON.

Staurolite, in large crystals, and very abundant. (Sil. 8.7.)

WRENTHAM.

Peat, 1 m. E. of the m. h. on Samuel Fales' land, also $1\frac{1}{2}$ m.
S. W. of the Baptist m. h. on Thomas Metcalf's land, and
on Lewis Metcalf's land adjoining, abundant.

ZOAR.

Zoisite. Cumingtonite. (Sil. 9. 43.)

 RHODE ISLAND.

CUMBERLAND.

Latrobite ?

NEWPORT.

Siliceous Slate, associated with transition rocks. (C.)

SMITHFIELD.

Basalt ? about a m. N. W. from Woonsocket village in the
race-way of the Branch cotton mill, in walls or veins, imbed-
ded in mica slate, consisting of columns of various sizes and
figures, their faces corresponding to each other so as to
form a compact wall. This mineral answers *precisely* to
the description of Basalt by Cleaveland, and appears similar
to that of Rowan, North Carolina.

CONNECTICUT.

HADDAM.

Yellow Oxide of Tungsten, sometimes coating the feldspar, &c. in the granite which furnishes the chrysoberyl, &c.
(*Dr. Torrey.*)

NEW HARTFORD.

Prismatic Mica. (*Sil.* 7.253.)

Cyanite, in gneiss. (*E. Cornelius.*)

NEW HAVEN.

Stilbite, in thin veins of implicated tabular crystals, of a flesh color, and rarely associated with

Analcime, in small crystals in greenstone. (*T. Nuttall.*)

NEW PRESTON.

Granular Limestone.

Fibrous Tremolite, in primitive limestone, presenting beautiful specimens, having the lustre of silk, very abundant.

White Augie. (*E. Cornelius.*)

SALISBURY.

Calcareous Sinter, in a stalactical form, under limestone rocks. *Calcareous Incrustations* are common. (*Sil.* 8.256.)

Cumingtonite, of great beauty, occurs associated with augie in a ledge of mica slate, of a glassy lustre, the fibres radiating from a centre, and 6 or 8 inches in length.

Phosphate of Iron, earthy, occurs with the brown oxide of iron, in a newly opened bed. It is very abundant, and lies in a diluvial hill, which has been penetrated to a small distance, and is associated with

Gibbsite? composed of granular and botryoidal concretions. It is less hard, and of a much whiter color than that of Richmond and Lenox.

Idocrase occurs in abundance in oblique, 4 sided prisms, truncated on all the edges; also in octahedral crystals and massive,*—mostly of an irregular form, variously grouped, and associated with hornblende, epidote, and calcareous spar; colors from a reddish brown, to light yellowish white. (*Sil.* 9.44.)

* These forms, if correct, do not agree with the mineral, which always occurs in right square prisms, or under some modification of that form.

SAYBROOK.

Fibrolite, found accompanying, and passing into the Sillimanite, which consequently is a mere crystallized variety, with which it also nearly agrees in chemical composition. The angles of the Sillimanite crystals, or fibrolite, as far as their general imperfection permits of examination, are in one direction about 94° and 86° , and there are appearances of natural joints, oblique to the axis of the prism. These crystals also agree perfectly with specimens of fibrolite from the Carnatic, with which they have been compared. (*T. Nuttall.*) The analysis of

Sillimanite gives Water, 00.510, Silica, 42.606, Alumine, 54.111, Oxide of Iron, 01.999, loss .714. (*G. T. Bowen.*)

Fibrolite gives Silica 38, Alumine, 58.25, Oxide of Iron 0.75, loss 3. (*Chenevix.*)

Nepheline gives Silica 44.11, Alumine, 33.73, Soda, 20.46, loss, 0.62. (*Arfwedson.*)

Specific gravity of Sillimanite, 3.410, Fibrolite, 3.21, Nepheline, 2.65. (C.)

WINDHAM.

Foliated Mica, of a greenish color, and

Cleavelandite, in a coarse grained granite, at Jilson's cotton mill.

NEW YORK.

ALBANY CO. See Albany, Bethlehem, Bern, Coeymans, Guilderland, Helderbergh, Knox, and Watervliet.

AMENIA.

Copper Ores, with galena and

Sulphuret of Zinc, in

Limestone, in the low ground in the side of a mountain. Masses of galena are frequently ploughed up. (*Bruce, 14.*)

CALDWELL.

Schorl, in white quartz, handsome specimens. (*R. H. Steel.*)

CAYUGA CO. See Aurora, Cayuga lake, Montezuma, and Semphronius.

CHATHAM.

Sulphuret of Lead, in small quantities. (*Sil. 9.43.*)

COLD SPRING.

Lamellar Green Pyroxene, with a metallic lustre, abundant, accompanied with beautiful *Feldspar*.

Silico-Calcareous Oxide of Titanium, in distinct crystals, and massive in *Pyroxene*.

Zircon, in an aggregate of quartz and pyroxene, scarce.

Rhomboidal Black Mica, also in 6 sided tables.

Lamellar Hornblende.

Rhombic Carbonate of Lime, with *Green Coccolite* intermixed. *Scapolite*, massive, associated with feldspar and green pyroxene.

Radiated Stilbite, in the fissures of pyroxene.

Chabasie, in obtuse rhombs, associated with the stilbite.

Busanite, with *Anthracite*, in loose pieces on the banks of the Hudson.

Tremolite, scarce. *Epidote*. (*Sil.* 9.41.)

COLUMBIA CO. See Ancram, Chatham, Claversack, Hudson, Livingston's Lead Mine, and New Lebanon.

DELAWARE CO. See Delhi.

DUTCHES CO. See Amenia, Anthony's Nose, Clinton, Fishkill, Hyde Park, North East, Peekskill, and Rhinebeck.

ERIE CO. See Black Rock.

ESSEX CO. See Anthony's Nose, S. from Ticonderoga, Crown Point, Rogers Rock, Sabbath-Day Point, Ticonderoga, and Willsborough.

GENESEE CO. See Batavia.

GREENE CO. See Catskill, and Catskill mountains.

GREENFIELD.

Oolite; an extensive formation commences about 2 m. from the village of Saratoga springs, and within $\frac{1}{4}$ a m. of the primitive rocks which terminate the southernmost point of the Palmetown mountain, extending W. several miles, through the farm of Mr. Benjamin Rose, &c. In and near the road, which leads from Greenfield to Ballston Spa, by the way of Rowland's mills, on the farm of Deacon Wood, there is a bank composed of a series of horizontal strata, of this formation. (*Sil.* 9.17.)

HERKIMER CO. See Danube, West Canada Creek, Fairfield, Little Falls, Newport, and Salisbury.

JEFFERSON CO. See Champlain.

KINGSBRIDGE.

Pyralloolite, in granular limestone, published in page 134 as rhæizite. (*T. Nuttall*.)

LIVINGSTON CO. See Leicester.

LOCKPORT.

Graphic Gypsum, or two varieties of gypsum, earthy and translucent, mixed in a zigzag form.

Selenite, crystallized, large and conspicuous, has also been found here.

Dogtooth Spar. A distinct crystallization from the European. *Satin Spar*, or silky and compact fibrous gypsum, equal to that of England, the fibres 4 or 5 inches long. (*T. Nuttall*.)

LONG ISLAND.

Red Ochre, clay colored with the brown oxide of iron, forming good Spanish brown, on the E. side of Hemstead harbour, at Muschito Cove, on the W. of the harbour, extending to Newtown, at Plandome, and at the head of Cow Bay, and near the head of Little Neck bay, in Flushing. (*Bruce*, 85.)

MADISON CO. See Canaseraga, and Lenox.

MONROE CO.

See Brighton, Carthage, and Rochester below the Falls.

MONTGOMERY CO. See Amsterdam, Florida, Johnston, and Palatine Bridge.

NEW YORK CITY.

White Pyroxene, imbedded in primitive limestone, which crosses the island at its northern extremity in 8 sided prisms, sometimes several inches in length. (*Bruce*, 266.)

Emerald rarely occurs in the granitic veins, which traverse gneiss 4 m. (*Bruce*, 265.)

NEW YORK CO. See Constitution Island, Corlaer's Hook, Harlem Heights, Kingsbridge, and New York city.

NIAGARA CO. See Lewistown, Lockport, and Niagara Falls.

ONEIDA CO. See Clinton, Rome, Vernon, and Westmorland.

ONONDAGA CO. See Camillus, Manlius, and Salina.

ONTARIO CO. See Clifton Springs, Farmington, Geneva, Honeoye, Ontario, and Williamson,

ORANGE CO. See Goshen, Highlands, Monroe, Warwick, and West Point.

PAWLINGS.

Iron Ore, in a large bed. (*Sil.* 8.30.)

PHILLIPSTOWN.

Hard White Marble, in blocks, texture very compact. *Serpentine* occurs in loose pieces, and variously mixed with the marble; some of the serpentine is very beautiful.

Lamellar Talc.

Rhombic Carbonate of Lime, pale flesh color. *Mica*, in 6 sided crystals in do. The *White Coccolite* contains in its cavities, crystals of *White Pyroxene*, 8 sided, terminations irregular. It is found in blocks and masses in considerable quantity, associated with marble and serpentine.

Rose colored Coccolite, same locality, in small quantities, associated with *Diopside*, or a variety of pyroxene, which is a light green, lamellar structure, with a glistening surface.

Magnetic Iron Ore, in marble, intermixed with *Asbestos*.

Suphuret of Iron. *Sphene* imbedded in *Tremolite*. This interesting locality is on the declivity of a small hill, principally composed of marble, serpentine, and white coccolite, on the farm of Mr. Joseph Hustis. The hill slopes to the east, its foot is washed by a small stream, and its opposite bank is an abrupt granite precipice, in which hornblende, green pyroxene, and green coccolite occur.

Compact Feldspar.

Pyroxene, in several localities, green, and also greyish white.

Green Coccolite, in several localities.

Carinthian hornblende.

Lamellar Hornblende.

Magnetic Iron Ore, abundant.

Green Actynolite. *Stilbite*, in grouped crystals, resembling a fan; color, wax yellow, intermixed with *Laumonite*, in a cellular feldspar. Distinct masses of crystals of *Laumonite* are found in the same vein with the stilbite. This vein is about 3 feet wide, in gneiss, and can be seen nearly 30 feet on the surface.

Graphite, in hexagonal laminæ, in greyish white pyroxene. (*Sil.* 9.39.)

PUTNAM CO. See Cold Springs, and Phillipstown.

RENSSELAER CO. See Greenbush, Hoosack, Lansingburg, Pittstown, Sand lake, Schaghticoke, and Troy.

ROCKLAND CO. See Fort Lee, and Haverstraw Bay.

SCHAGHTICOKE.

Quartz Crystals, in great perfection and beauty. *Chlorite*.
Massive Garnet. *Rhomb Spar*. *Sulphate of Alumine*.
Sulphate of Iron. *Graphite*. *Aluminous Slate*. *Hornstone*.
Hornblende, near Hoosac river. (*Sil.* 9.44.)

SCHENECTADY CO. See Glenville, and Schenectady.

SCHOHARIE CO. See Carlisle, and Argile.

SENECA CO. See Galen.

SOUTH EAST.

Granular Limestone, very white.

Cereolite, connected with the limestone, very abundant. (*E Cornelius*.) This cereolite is well characterized. (*T. Nuttall*.) See Cereolite, page 287.

ST. LAWRENCE CO. See Canton.

WARREN CO. See Caldwell and George Lake.

WARWICK.

Serpentine, in rhomboidal crystals, the angle being about 96° and 84° , and totally different from *Marmolite*.

Brucite occurs here in crystals, and in masses nearly a foot square, accompanied by

Pale Violet Brown Hornblende, in large clusters and distinct crystals of the common form.

Brown and Black Spinelle, in mica and carbonate of lime.

Martial Arseniate of Copper, in thin crusts over small masses of the *Arsenical Iron*. (*T. Nuttall*.)

For the discovery of the following interesting minerals which were expected out in Silliman's journal, of the last date, the public are indebted to Dr. Fowler, of Franklin, and fearing anticipation I have ventured to offer the present brief notice for their discoverer. (*T. N.*)

Brucite in Crystals, of a pale as well as deep orange yellow color, accompanied by

Spinelles of a pale or greyish Blue, occupying druses with the preceding mineral.

Pseudolite, apparently an undescribed mineral in regular octahedrons, in a species of graphic rock. Its color is leek or olivaceous green, and its hardness scarcely greater than that of serpentine, which in substance it resembles, and has an unctuous feel. It is infusible. It may be a pseudomorphous mineral, occupying the cast of spinelle, and hence

its name from the ambiguity of its character. It possesses however, a lamellar cleavage in some directions, indicative of its homogeneity. It also occurs in a second locality with crystallized serpentine and red spinelle, and though imperfect in form is readily distinguishable from the serpentine. It ought still probably to be considered as a pseudomorphous steatitic cast of spinelle, the centre being sometimes of considerable hardness.

Red Spinelle, of various shades of rose, and when large inclined to brown. The largest crystals are near upon 4 inches round the base! The smallest no larger than the head of a pin. They accompany crystals of noble serpentine and masses of the *Pseudolite*, with plumbago, and, as well as the rest of these minerals, are imbedded in a beautiful pale pink colored carbonate of lime.

Black Spinelles, of enormous size, accompanying brucite, and large crystals of serpentine of the common or impure kind. The largest crystal in Dr. Fowler's possession, its discoverer, gives a base of 16 inches! Many others give a base of 4 to 8 inches. They are accompanied by large crystals of some metallic substance in prisms, variously modified, which appears to be

Feriferous Columbite. Certainly not chromated *Iron*, as I had supposed, neither the chromic acid nor oxide being discoverable in it.

Scapolite, in very large crystals, as well as

Hornblende, in crystals equally perfect and gigantic.

WEST FARMS.

Chabasie, in flesh red cuboids with the stilbite, but rare. (*T. Nuttall*.)

WEST POINT.

Black Spinelle, $4\frac{1}{2}$ m. W. from the Military Academy, in fine crystals of a bright black color.

Zircon ? in prisms nearly half an inch in diameter, with the sphene.

Scapolite, compact, of a flesh color, and also crystallized, in white and green crystals, as at Franklin, New Jersey. (*T. Nuttall*.)

NEW JERSEY.

Steatite, on the banks of the Delaware, opposite Easton. (C.)

This is in fact *Potstone*, steatite being as yet a rare mineral in the United States. (T. Nuttall.)

FRANKLIN.

Franklinite. Dr. Fowler possesses a crystal of *Franklinite* 16 inches round the base! But the most perfect crystals are about 4 inches round, with the edges so broadly replaced as to pass into the dodecahedron, but with dull facets. The largest crystals have been found at Stirling, and are accompanied by crystals of the siliceous oxide of zinc in 6 sided prisms, sometimes terminated with two pentagonal faces, and also with 3 rhomboidal faces. This mineral, according to Dr. Troost, is a new species, the primitive form of its crystals being a right prism with square bases, while that of Europe gives a rhomboidal prism.

Crystallized Siliceous Oxide of Manganese, of a hardness sufficient to scratch glass, and readily fusible. The color, with all the brilliance and translucence of feldspar, is at first rose red, but by the weather apparently becomes deep brownish black. The crystals, sometimes $\frac{1}{4}$ an inch in diameter, present the primitive form only, being a doubly oblique prism of about 94° , 86° , and 78° , 102° , but with the faces somewhat rough; the last angles are those of the terminating summit. In this substance, both at Franklin and Stirling, the new variety of spinelle called *Dysluite*, is commonly imbedded, and accompanied by a dark colored manganeseiferous carbonate of lime.

Yellow Blende, accompanied by

Carbonate of Zinc, in a breccia.

Steatite, noticed by Dr. Fowler, accompanying the yellow garnet, and sometimes associated with a new variety of

Brown Augite, of the color of chocolate, or yellowish brown.

Blue Zinciferous Spinelle, very dark, but by transmitted light indigo blue. The crystals, found in an alluvial situation, are extremely brilliant, and one in Dr. Fowler's possession, measures 4 inches round the base.

Red Spinelle, found by myself, and afterwards by Dr. Fowler, near the pond or mill dam.

Grey Spinelle, at Franklin and Stirling, commonly dull and opaque, and appears almost pseudomorphous.

Black Spinelle, imbedded in mica, the octahedrons sometimes made up of an aggregate of minute octahedrons, similar to a curious Cornish variety of fluete of lime.

Green Spinelle, in *Cubic Crystals*, in an alluvial bank of the Franklinite on a mass of magnetic oxide of iron. The octahedron with the solid angles replaced, and thus tending to this form, occurs near Hamburg.

Pyrallolite, in sienite, color greenish yellow, sometimes almost white. (*T. Nuttall*.)

At page 162, 7th line under Franklin, for *Whitish Oxide of Zinc* read *Carbonate of Zinc*. (*T. Nuttall*.) Page 164, *Maclurite* refers to the Delaware mineral, 2d line below. *Maclurite*, for *Greenstone*, read *Hypersthene*.

HAMBURG.

Black Spinelle. Occasionally specimens occur with the solid angles of the octahedron replaced, and thus tending to the cube which I have obtained apparently complete and of a bright green color, in a matrix of magnetic oxide of iron at Franklin. (*T. Nuttall*.)

HOBOKEN.

Gurhofite, of the books, described as *Magnesian Limestone*, in page 166.

Marmolite, forming narrow veins in the serpentine of Hoboken, and in that of the Barc Hills near Baltimore; in the former locality it sometimes occurs in contact with the lamellar hydrate of magnesia, and in the magnesian marble. Its texture is foliated with the laminæ thin, and often parallel as in diallage; sometimes also cleaving in two directions parallel to the sides of an oblique and compressed 4 sided prism. These laminæ, sometimes $\frac{1}{4}$ of an inch broad, are commonly collected into radiating and diverging clusters, of a pale green, or greenish grey color, and a pearly submetallic lustre, easily cut by a knife, and almost perfectly opaque, infusible, and brittle. (*Sil.* 4.19.) This mineral differs entirely in its crystallization from serpentine. See Warwick, New York, page 296.

RUTGERS' IRON MINE.

This and the Franklin iron mine are the same.—Rutgers was its former proprietor. It is at present owned by Dr. Fowler.

SOMERVILLE COPPER MINE.

Red Oxide of Copper is found here crystallized in *cubes* as well as in octahedræ. (*T. Nuttall.*)

SCHOOLEY'S MOUNTAIN.

Siderographite. This is found to be factitious. Page 150, 1st line under Schooley's Mountain, for *Granite* read *Sienite*. (*T. Nuttall.*)

Zircon, in reddish brown, 4 sided prisms, from $\frac{1}{3}$ to $\frac{1}{2}$ an inch in length. About 100 yards from Belmont Hall, in sienitic rock detached. (*Sil.* 9.45.)

PENNSYLVANIA.

CHESNUT HILL.

Hornstone, in rolled masses, of a compact texture and conchoidal fracture, strongly translucent, a beautiful variety.

Jasper, *Red* and *Blue*, in detached masses, loose and in the soil.

Green Quartz, crystallized in a carious quartzose rock; and also with it, *Hyalite*, in small white specks, and botryoidal and mammillary masses. The same locality abounds with fine drusy quartz. (*Carpenter and Spackman.*)

CHESTER CO.

Scapolite, with *Epidote* and *Hornblende*, in gneiss. (*T. Nuttall.*)

DOWNINGSTOWN.

Carbonate of Lime, composed of lenticular crystals, and fibres, running parallel, and sometimes diverging, resembling the fibrous arragonite, and forming veins, in the limestone quarries, near. (*Carpenter and Spackman.*)

EASTON.

Noble Serpentine, *Crystallized*, of a greenish yellow color. Remarked first by Dr. Swift. (*T. Nuttall.*)

GERMANTOWN.

The tremolite mentioned as occurring in *Serpentine*, in Germantown, page 184, is

Anthophyllite, associated almost exactly like that described by Mr. Shepard, in Blandford, page 281. (*T. Nuttall.*)

Hornstone, near Germantown, $5\frac{1}{2}$ m. from Philadelphia, of a greyish white color and conchoidal fracture.

Garnet, 6 m. from Philadelphia, in dodecahedrons, of an opaque reddish brown color, from the size of a pea to an inch in diameter, in sandstone, abundant. (*G. W. Carpenter.*)

Cyanite, 6½ m. from Philadelphia, in small blades, or in imperfect flat prisms, of a blue and white color, in mica slate. (*Carpenter & Spackman.*)

MONTGOMERY CO.

Anthophyllite, sometimes in dark serpentine, at others in an amphibolic mixture. (*T. Nuttall.*)

PERKIOMEN LEAD MINE.

Hydrate of Copper.

Calamine, page 188, is the *Siliceous Oxide of Zinc*. (*T. Nuttall.*)

PHILADELPHIA.

Actynolite, 6 m. on the Germantown and Roxborough townshipline road, abundant, in compressed, acicular crystals of a rich green color, traversing a

Granular Epidote. Glassy Actynolite. occurs on the Wisahicon, 12 m., of a fine green color, in talcose rock, in irregular grouped, acicular crystals.

Chromate of Iron, at the same locality, abundant.

Manganesian Garnet is found abundantly 6½ m. from Philadelphia, between Germantown and Townshipline road, massive, in the soil.

Schorl, 5 m. on the York road, beautiful velvet black, cylindrical crystals in the granite, containing white beryl.

Limpid Quartz, 5 m. from Philadelphia, between German town and York road, fine crystals occurring loose in a ploughed field.

Pseudomorphous Quartz, carious and contorted, in false, opaque crystals, of various forms, in globular and reniform masses, and in botryoidal clusters, occurring between York road and Germantown, 5 m. from Philadelphia.

Crystallized Mica, 6½ m. on the Townshipline road, between Roxborough and Germantown.

Staurotide, 6 m. from Philadelphia, on the Wisahicon, in mica slate. (*G. W. Carpenter.*)

Phosphate of Lime, 6 m. from Philadelphia, near Wisahicon, in hexahedral prisms, from ¼ of an inch to 1 inch in diameter, of a pale green color, in *Compact Feldspar*.

Asbestoid Actynolite, on the Wisahicon, 6½ m. and 8 m. from Philadelphia, in talcose rock in very delicate fibres, diverg-

302 DELAWARE. MARYLAND. VIRGINIA.

ing or radiating from a centre, of a fine silky lustre, of a greyish white, or pale green color. (*Carpenter & Spackman.*)

Amianthus, mentioned in page 190 as *Asbestos*. (*T. Nuttall.*)

WEST CHESTER.

Rhætzite. (*T. Nuttall.*)

DELAWARE.

BRANDYWINE CREEK.

Fibrolite, or that variety called

Bucholzite, in considerable masses, commonly compact, and of great hardness, occasionally in distinct and free fibres. (*T. Nuttall.*)

WILMINGTON.

Almandine, or *Precious Garnet*, found on Mr. Dickson's farm in splendid and highly translucent dodecahedrons, in a vein of graphic granite.

Actynolite of a very fine emerald green. (*T. Nuttall.*)

Feldspar, near, on Mr. Dickson's farm, a beautiful variety, of a green tinge.

Laumonite, $1\frac{1}{2}$ m. on the New Port road, forming thin veins of laminated masses, in a hornblende rock.

Albite, $\frac{2}{3}$ of a mile from Mr. Dickson's farm, in laminated masses, the laminæ of which are slightly curved, of a pure white, and of a shining and pearly lustre. (*Carpenter & Spackman.*)

MARYLAND.

ANNE ARUNDEL CO.

Retinasphaltum occurs with the amber, and is commonly confounded with it. (*T. Nuttall.*)

VIRGINIA.

FREDERICKSBURG.

Native Gold, found in the bed of a brook, as at Cabarrus, North Carolina. (*T. Nuttall.*)

ORANGE CO.

Argentiferous Galena? on Lord Fairfax's property, said to contain a considerable portion of silver. (*T. Nuttall.*)

RICHMOND.

Gypsum, in crystals, apparently alluvial. (*T. Nuttall.*)

FLORIDA.

ALACHUA SAVANNA.

Compact Limestone, light colored, resembling the predominant rock of Cuba, on the western border of this Savanna, forming the nucleus of a considerable eminence, embracing organic remains. (*Sil.* 9.126.)

ANASTASIA.

Shell Limestone, or a testaceous formation, constituting the northern part of the island, and perhaps forming a substratum of the whole of it, 2 or 3 m. from St. Augustine, opposite. It is an aggregate of fragments of various shells, in horizontal stratified layers, which easily separate into slabs. This rock has been used in this neighborhood since 1565. The fort St. Mark, the church, and the government-house at St. Augustine, and the keys along the sea shore are constructed of it. (*J. A. N. S. P.* 4.74.) See Eutaw springs, South Carolina, page 221.

TAMPA BAY.

Coral, mineralized, in *Chalcedony*, and *Cacholong*, is found near this bay.

Hornstone, *Flint*, *Agate*, and *Chalcedony* occur in the southern part of the secondary district. (*Sil.* 9.126.)

TENNESSEE.

FRENCH BROAD RIVER.

Sulphuret of Mercury, or cinnabar, is said to have been found near the source of this river, and to exist abundantly. (*T. Nuttall.*)

ILLINOIS.

GALLATIN CO.

Oolite, in the township of Monroe, 4 m. W. of Cave-in-Rock, in detached masses, and may be seen in situ in some of the old diggings made for the purpose of procuring lead, regularly stratified. (*Sil.* 9.19.)

MISSOURI.

Jade, along the banks of the Missouri, in pebbles, and sometimes imbedded in sard pebbles. (*T. Nuttall.*)

MAHA VILLAGE.

Pulverulent Sulphate of Lime, near the village. (*T. Nuttall.*)

RED RIVER.

Siliceous Carbonate of Lime, massive, including a green sand. (*T. Nuttall.*)

ADDENDA.**MAINE.**

PARIS.

Ferriferous Columbite, in crystals in granite, very similar to those of Hadham, but larger, associated with *Spodumene*, of a greenish white color. (*T. Nuttall.*)

4

39

[illegible]

| | Me. | N. H. | Vt. | Mass. | R. I. | Conn. | N. Y. | N. J. | Penn. | Del. | Md. | D. Col. | Va. | N. C. | S. C. | Geo. | Flo. | Ala. | Miss. | Lou. | Tenn. | Ken. | Ohio. | Ind. | Mich. | NW. I. | Illin. | Miss. | Ark. | T. No. |
|---------------------|-----|-------|-----|-------|-------|-------|-------|-------|-------|------|-----|---------|-----|-------|-------|------|------|------|-------|------|-------|------|-------|------|-------|--------|--------|-------|------|--------|
| Asbestos, Ligniform | | | | 3 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| Amianthus | | | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | 24 |
| Augite | 1 | | 5 | 6 | 2 | 2 | 2 | 3 | 2 | 1 | 1 | | | | | | | | | | | | | | | | | | | 40 |
| Baikalite | | | 1 | 10 | 1 | 6 | 13 | 5 | 2 | 1 | | | | | | | | | | | | | | | | | | | | 2 |
| Coccolite | | | 2 | 2 | | | 13 | 2 | 1 | | | | | | | | | | | | | | | | | | | | | 20 |
| Diopside | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Sahlite | | | 3 | 3 | 1 | 3 | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | 10 |
| Barytes, Sulphate | | | 5 | 6 | 12 | 3 | 4 | | 2 | | | | 3 | 3 | | | | | | | 2 | 1 | 1 | | | | | 5 | 1 | 45 |
| Carbonate | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | 1 |
| Basalt | 1 | 1 | 2 | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| Basanite | 1 | | 2 | 1 | 1 | 5 | 1 | 3 | | | | | | | | | | | | | | | | | | | | | | 4 |
| Beryl | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 14 |
| Bismuth, Native | 3 | 2 | | 9 | | 7 | 2 | 1 | 7 | 1 | | | | | | | | | | | | | | | | | | | | 32 |
| Bitumen | | | | | | 1 | | 1 | | | | | | | | | | | | | | | 1 | 1 | | | | | | 3 |
| Elastic | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Bituminous Wood | | | | | | | 1 | 1 | 3 | | 1 | | | | | | | | | | | | | | | | | | | 6 |
| Brucite | 2 | | | | | | 8 | 4 | 1 | | | | | | | | | | | | | | | | | | | | | 15 |
| Bucholzite | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 1 |
| Buhrstone | | | | | | | | 1 | 1 | | | | | | | 3 | | | | | | | | | | | | | | 8 |
| Cacholong | | | | | | | | 1 | | | | | | | 2 | | 1 | | | | | | | | | | | 2 | | 10 |
| Carbonic Acid | | | | | | | | 2 | 1 | | | | | | | | | | | | | | | | | | | | | 3 |
| Carnelian | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | 11 |
| Cerolite | | | | | | | | 1 | | | | | | | | | | | | | | | | | | 2 | 5 | | | 2 |
| Chabasie | | | | 2 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 5 |
| Chalcedony | 2 | 1 | 10 | 3 | 8 | 7 | 2 | 4 | 2 | | | | | | | | | | | | | | | | | 2 | 8 | | | 57 |
| Chlorite | 1 | | 13 | 30 | 4 | 7 | 3 | 1 | 4 | | 1 | | 2 | | | | 1 | | | | | | | | 2 | 1 | | | | 66 |
| Slaty | | | 2 | 4 | 2 | 4 | 5 | 1 | 1 | | | | 1 | 2 | | | | | | | | | | | | | | | | 22 |
| Chrysoberyl | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 2 |
| Chrysoprase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Cinnamon Stone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Clay | | | | 1 | | 1 | | 4 | 1 | | | | | | 1 | | | | | | | | | 1 | | | | | | 11 |

309

| | Me. | N. H. | Vt. | Mass. | R. I. | Con. | N. Y. | N. J. | Penn. | Del. | MD. | D. Col. | Va. | N. C. | S. C. | Geo. | Flor. | Alab. | Miss. | Lou. | Tenn. | Ken. | Ohio. | Indl. | Mich. | NW. T. | Illin. | Missou. | Ark. | T. No. | | |
|------------------------|-----|-------|-----|-------|-------|------|-------|-------|-------|------|-----|---------|-----|-------|-------|------|-------|-------|-------|------|-------|------|-------|-------|-------|--------|--------|---------|------|--------|---|---|
| Garnet, Colophonite | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Manganesian | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Gibbsite | 1 | . | . | 1 | . | 1 | 1 | 3 | 3 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Gold, Native | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Graphite | 6 | 9 | 4 | 12 | 2 | 5 | 22 | 7 | 3 | . | . | . | 3 | 4 | 1 | . | . | . | . | . | . | . | . | . | . | . | 3 | 79 | 8 | . | . | |
| Green Earth | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | 2 | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Haydenite | . | . | . | 2 | . | . | . | 1 | 3 | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Heliotrope | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Heulandite | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Hornblende | 3 | 6 | 11 | 30 | 5 | 4 | 10 | 1 | 4 | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Hornstone | 3 | 2 | 8 | 11 | 2 | 6 | 11 | 2 | 3 | 2 | 1 | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Hydrogen Gas | . | . | . | . | . | . | 3 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Carburetted | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Sulphuretted | . | . | . | 1 | . | . | 5 | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Idocrase | . | . | . | 2 | 1 | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Iron, Native | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Arsenical | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Sulphuret of Iron | 5 | 1 | 18 | 27 | 7 | 9 | 18 | 6 | 6 | 3 | . | . | 5 | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Hepatic | . | . | . | 1 | 2 | . | 1 | 2 | 1 | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Magnetic | 2 | . | 1 | 2 | . | 4 | 3 | 1 | 1 | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Arsenical | . | . | . | 4 | . | 3 | 3 | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Magnetic Oxide of Iron | 3 | 2 | 8 | 6 | 3 | 3 | 14 | 7 | 5 | 1 | . | . | 6 | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Crystallized | 1 | 1 | 4 | 11 | 2 | 3 | 2 | 2 | 2 | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Native Magnet | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Iron Sand | 1 | . | . | 2 | 3 | 2 | 5 | 1 | 1 | 1 | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Specular Oxide of Iron | . | . | . | 4 | 9 | 2 | 1 | 4 | . | 1 | . | . | 3 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Micaceous | 1 | 1 | 3 | 8 | 3 | 1 | 1 | 2 | 3 | 1 | 1 | 1 | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | |
| Red Oxide of Iron | . | . | . | . | . | . | 8 | . | 3 | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | 28 | . | . | . |
| Scaly | . | . | . | . | . | . | 1 | 1 | 3 | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | 1 | . | . | . |
| Red Hematite | . | . | . | . | . | . | 1 | 1 | 1 | . | . | . | 5 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 5 | 5 | . | . | . |
| Compact | . | . | . | . | . | . | 1 | . | 1 | . | . | . | 5 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | 1 | . | . | . |

TABULAR VIEW.

311

| | Me. | N. H. | Vt. | Mass. | R. I. | Con. | N. Y. | N. J. | Penn. | Del. | MD. | D. Col. | Va. | N. C. | S. C. | Geo. | Flo. | Ala. | Miss. | Ind. | Tenn. | Ken. | Ohio. | Ind. | Mich. | NW.T. | Illn. | Miss. | Ark. | T. No. |
|-----------------------------|-----|-------|-----|-------|-------|------|-------|-------|-------|------|-----|---------|-----|-------|-------|------|------|------|-------|------|-------|------|-------|------|-------|-------|-------|-------|------|--------|
| Lead, Molybdate | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Lepidolite | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Lignite | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Brittle | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Brown | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Earthy | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Lime, Carbonate, Calc. Spar | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Granular | 4 | 3 | 5 | 21 | 5 | 12 | 12 | 6 | 4 | 8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Fibrous | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Satin Spar | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Compact | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Marble* | 2 | 5 | 6 | 1 | 1 | 6 | 1 | 6 | 1 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Flexible Marble | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Chalk | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Agaric Mineral | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Fossil Farina | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Oolite | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pisolite | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Calc. Sinter | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Stalactites, &c. | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Calcareous Tufa | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Argentine | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Magnesian Carb. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Crystallized | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Gurhofite | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Dolomite | 3 | 3 | 3 | 2 | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Brown Spar | 3 | 3 | 3 | 1 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Siliceous Carb. | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Madrepore | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Fetid Carb. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

* The localities of Marble are included in Granular and Compact Carbonate of Lime.

TABULAR VIEW.

[illegible]

TABULAR VIEW.

313

[illegible]

TABULAR VIEW.

315

[illegible]

| | Me. | N. H. | Vt. | Mass. | R. I. | Conn. | N. Y. | N. J. | Penn. | Del. | Md. | D. Col. | Va. | N. C. | S. C. | Geo. | Flo. | Ala. | Miss. | Lou. | Tenn. | Ken. | Ohio. | Ind. | Mich. | N.W.T. | Illin. | Misso. | Ark. | T. No. | | |
|------------------------|-----|-------|-----|-------|-------|-------|-------|-------|-------|------|-----|---------|-----|-------|-------|------|------|------|-------|------|-------|------|-------|------|-------|--------|--------|--------|------|--------|----|----|
| Tremolite | 1 | 2 | 3 | 15 | 6 | 12 | 7 | 2 | 4 | 1 | | | | 1 | | | | | | | | | | | | | | | | 54 | | |
| Tungsten, Yellow Oxide | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 3 | | |
| Calcareous Oxide | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Ferruginous Oxide | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| Uranium, Black Oxide | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 | | |
| Green Oxide | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 | | |
| Wacke | | | | 5 | 3 | 2 | | | | | | | | | | | | | | | | | | | | | | | | 10 | | |
| Wavellite | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Yellow Earth | | | | 2 | | | 1 | 2 | 1 | | | | | | | | | | | | | | | | | | | | 2 | 8 | | |
| Yenite | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | 2 | | |
| Yturo-Cerite | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Zeolite | | | | 2 | 4 | 2 | 4 | 2 | 1 | | 1 | | | | | | | | | | | | | | | | | | | 15 | | |
| Zinc, Sulphuret | | | 1 | 1 | 2 | 11 | 3 | 2 | | 1 | | | | | | | | | | | | 1 | | | | | | | 1 | 2 | | |
| Yellow | | | 1 | | | 2 | 6 | 2 | 2 | 1 | | | | | | | | | | | | | | | | | | | | | 13 | |
| Brown | | | 1 | | | | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | | 4 | |
| Black | | | | | | 1 | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | | 4 | |
| Red Oxide | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7 | |
| Siliceous Oxide | | | | | | | 5 | | | | | | | | | | | | | | | | | | | | | | | | 6 | |
| Carbonate | | | | | | 1 | 3 | 2 | | | | | | | | | | | | | | | 1 | | | | | | | | 7 | |
| Sulphate | | | | 2 | 1 | 4 | 3 | 3 | | 1 | | | | 2 | | | | | | | | | | | | | | | 1 | 1 | 16 | |
| Zircon | | | 2 | 2 | 7 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | 14 |
| Zoisite | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|-------------------------------------|---------------------------------|
| Adularia, see Feldspar. | Gypsum, see lime. |
| Agric Mineral, see Lime. | Indicolite, see Tourmaline. |
| Aluminous Slate, see Slate. | Jade, see Nephrite. |
| Alabaster, see Lime. | Jeffersonite, see p. 164. 173. |
| Allochroite, see Garnet. | Marl, see Lime. |
| Ammonite, see Lime. | Mineral Caoutchouc, see p. 114. |
| Anhydrous Sulph. of Lime, see Lime. | Necronite, see Feldspar, Feid. |
| Apatite, see Lime. | Pyrroxene, see Augite. |
| Argentine, see Lime. | Sabbite, see Augite. |

| | | | |
|-------------------------------------|-----------------------------------|------------------------------------|---------------------------------|
| Adularia, see Feldspar. | Arragonite, see Lime. | Colophonite, see Garnet. | Gypsum, see Lime. |
| Agaric Mineral, see Lime. | Asparagus Stone, see Lime. | Coccolite, see Augite. | Indicolite, see Tourmaline. |
| Aluminous Slate, see Slate. | Automalite, see Garnite. | Datholite, see Augite, and p. 168. | Jade, see Nephrite. |
| Alabaster, see Lime. | Bakalite, see Augite. | Dipsolite, see Augite, and p. 145. | Jeffersonite, see p. 164. 173. |
| Allochroite, see Garnet. | Bituminous Shale, see Shale. | Epsom Salt, see Magnesia. | Marl, see Lime. |
| Ammonit, see Lime. | Black Chalk, see Slate, Graphite. | Fluorite of Lime, see Lime. | Mineral Caoutchouc, see p. 119. |
| Anhydrous Sulph. of Lime, see Lime. | Brown Spar, see Lime. | Gadolinite, see p. 28, 381, 382. | Necronite, see Feldspar, Feld. |
| Apatite, see Lime. | Ceylanite, see Spinelle. | Green Iron Earth, see Green Earth. | Pyroxene, see Augite. |
| Argentine, see Lime. | Chalk, see Lime. | Gurbofite, see p. 299, and Lime. | Sabite, see Augite. |

